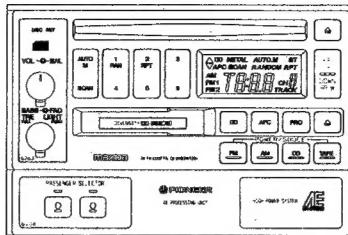


Service Manual

PIONEER
The future of sound and vision.

• DEH-K4041ZM



2407

ORDER NO.
CRT 1196

TUNER DECK · CD AMPLIFIER

DEH-K4041ZM US

DEH-K4141ZM US

TUNER DECK · CD PLAYER

DEX-K4141ZM-91 US

AE AMPLIFIER

XF-4041ZM-91 US

XF-4141ZM-91 US

• These models have been installed in MAZDA RX-7.

	MAZDA No.		
DEH-K4041ZM	FC04	66	9W0
DEH-K4141ZM	FC32	66	9W0
DEX-K4141ZM-91	FC04	66	AC0
XF-4041ZM-91	FC04	66	AF0
XF-4141ZM-91	FC32	66	AF0

US

These models are used in combination with GM-4041ZM and GM-4141ZM.

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2407

FS JAN. 1989 Printed in Japan

- DEX-K4141ZM-91, XF-4041ZM-91 and XF-4141ZM-91 are supplementary model number. These are identical to the DEH-K4041ZM and DEH-K4141ZM except for the addition of the following items.

Description	AM FM CASSETTE CD COMBINATION DEX-K4141ZM-91	AE PROCESSING UNIT XF-4041ZM-91	AE PROCESSING UNIT XF-4141ZM-91
Carton	CHG1573	CHG1574	CHG1575
Styrofoam	CHP1206	—	—
Styrofoam	CHP1207	—	—
Cover	CEG1042	CEG1051	CEG1051
Installation Manual	CRB1119	CRB1119	CRB1051
Bracket	CNC2770	CNC2358	CNC2358
Bracket	CNC2771	—	—
Bracket	CNC2498	—	—
Screw	BMZ50P080FMC	—	—
Screw	CBA1096	—	—
Holder	CNC2531	—	—
Polyethylene Bag	CEG1041	—	—
Screw Assy	No spare part	No spare part	No spare part
Screw	BMZ30P050FMC	—	—
Screw	BMZ50P080FMC	—	—
Screw	CMZ50P080FMC	—	—

Note:

- See the separate manual CX-173 (CRT1161) for the CD mechanism description.
- See the service manual CDX-3 (CRT1177) for CD mechanism circuit description.
- See the separate manual CX-156 (CRT-468) for the cassette mechanism description.
- Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.

1. SPECIFICATIONS

Power source	DC 13.2V (10 ~ 15V allowable)
Grounding system	Negative type
Weight	3.8kg [8.4lbs.]
Tape Player	
Tape	Compact cassette tape (C-30 ~ C-90)
Tape speed	4.76cm/sec. (+0.14cm/sec., -0.05cm/sec.)
Wow & flutter	Less than 0.2% (WRMS)
Frequency response	0±5dB (10kHz/315Hz) 0±4dB (125Hz/1kHz) 0±5dB (10kHz/1kHz) -4.5±3dB (70μs, 10kHz)
S/N	More than 45dB
Channel separation	More than 35dB
FM Tuner	
Frequency range	87.9 ~ 107.9MHz
Usable sensitivity	Less than 15dB μ (mono)
S/N	More than 50dB (30%mod., input 54dB μ)
Distortion	Less than 1.5% (30%mod., input 54dB μ)
Stereo separation	More than 20dB (1kHz, input 60dB μ)
AM Tuner	
Frequency range	530 ~ 1,710kHz
Usable sensitivity	Less than 32dB μ
1-signal selectivity	More than 40dB
CD Player	
Distortion	Less than 0.03% (1kHz)
S/N	More than 75dB
Frequency response	-2.5±1dB (20Hz/1kHz) 0±1dB (20kHz/1kHz)

AE

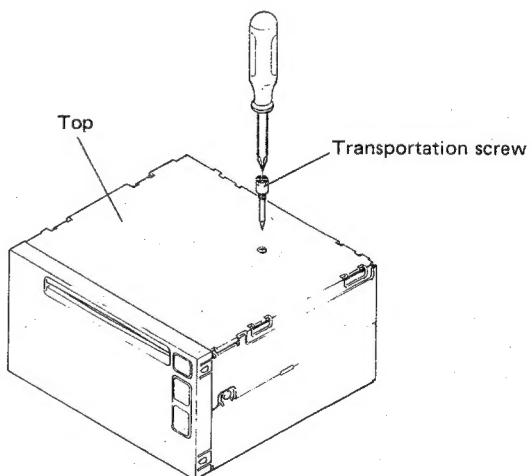
Distortion	Less than 0.3% (-10dBs output, 100Hz)
Separation	More than 38dB (185mV output, 100Hz)
Frequency response	
(280Hz/100Hz)	-2.5±2dB (DEH-K4041ZM)
(280Hz/100Hz)	-3±2dB (DEH-K4141ZM)
(750Hz/100Hz)	+2.5±2dB
(1.4kHz/100Hz)	-7±2dB
(20kHz/100Hz)	+1.5±2dB (DEH-K4041ZM)
(20kHz/100Hz)	+0.5±2dB (DEH-K4141ZM)
Voltage gain	0±2dB (-10dBs output, 100Hz)

AMP

Continuous power output	More than 11W (10% dist. at 1kHz)
Front voltage gain (L)	35±2dB (0dBs output at 1kHz) (DEH-K4041ZM)
(L)	34.3±2dB (0dBs output at 1kHz) (DEH-K4141ZM)
(R)	37±2dB (0dBs output at 1kHz)
Rear voltage gain	29±2dB (0dBs output at 1kHz)
Frequency response	-0.5±2dB (0dBs output 100Hz/1kHz)
Distortion	Less than 0.1% (+10dBs output at 1kHz)

• CD Player Service Precautions

1. Since these screws protect the mechanism during transport, be sure to affix it when it is transported for repair, etc.
2. For pickup unit (CGY1007) handling, please refer to "Disassembly" (Fig. 10). During replacement, handling precautions shall be taken to prevent an electrostatic discharge (protection by a short pin).
3. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.



2. GENERAL GUIDE

RADIO

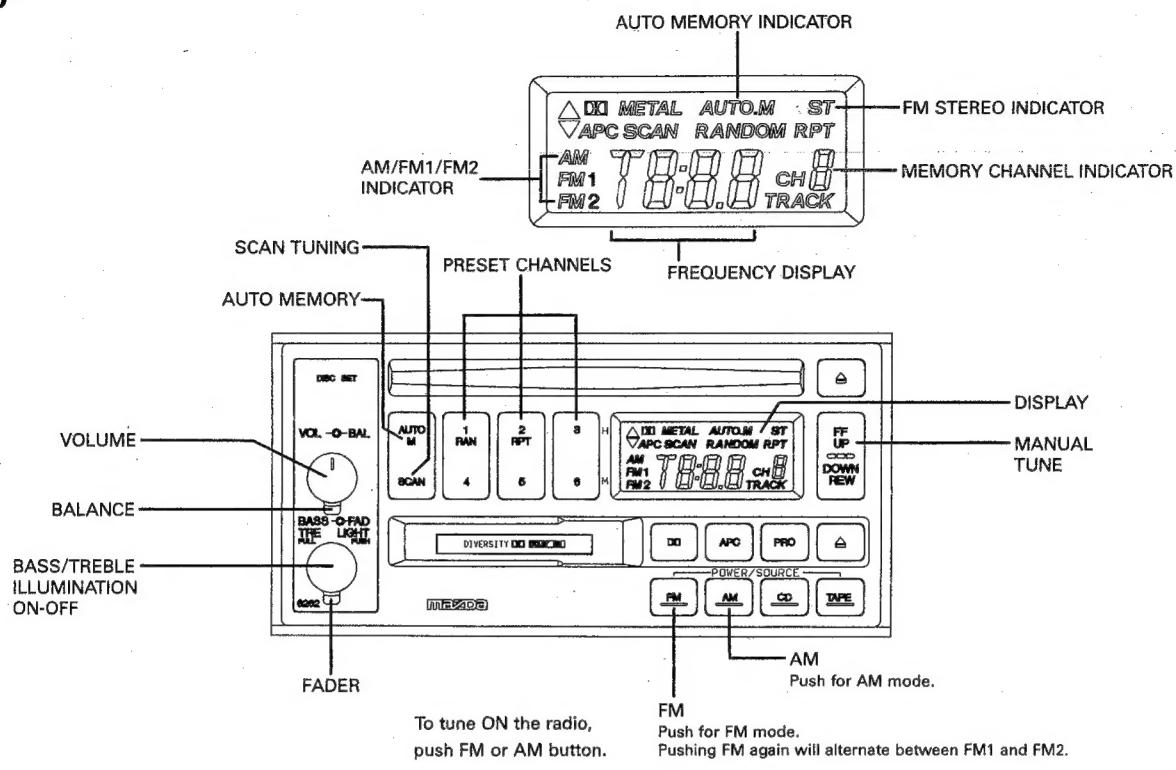


Fig. 1

CD, CASSETTE

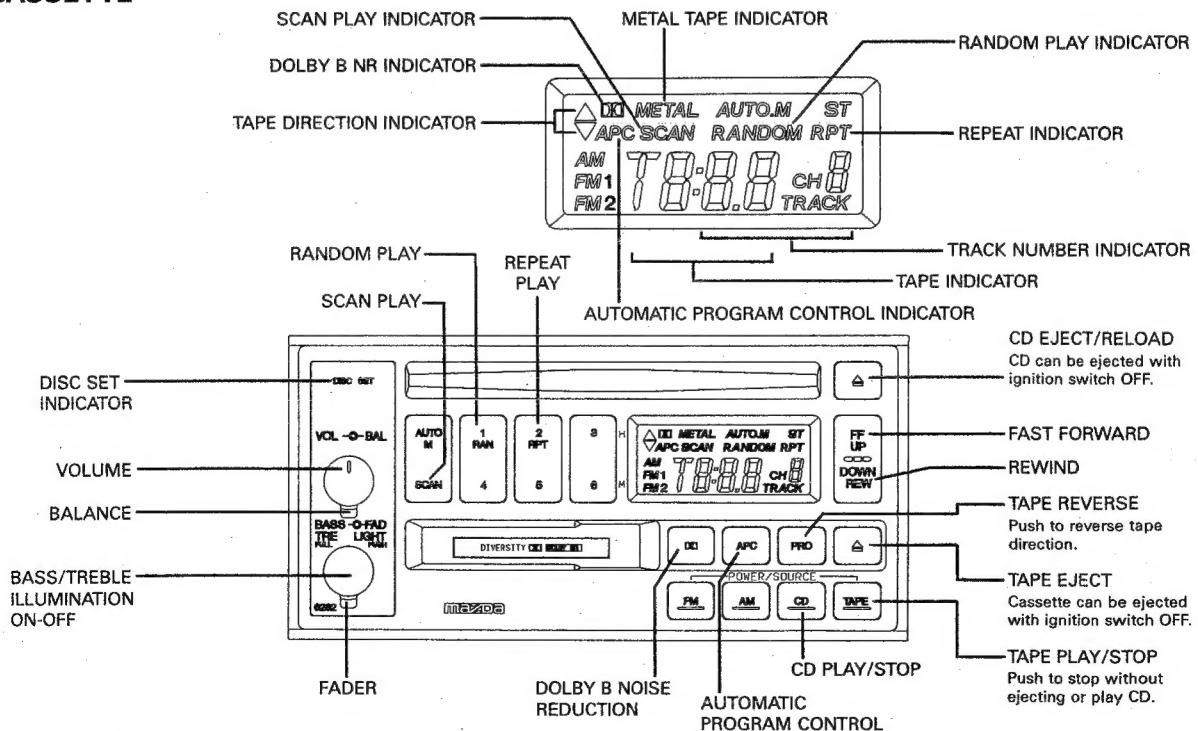
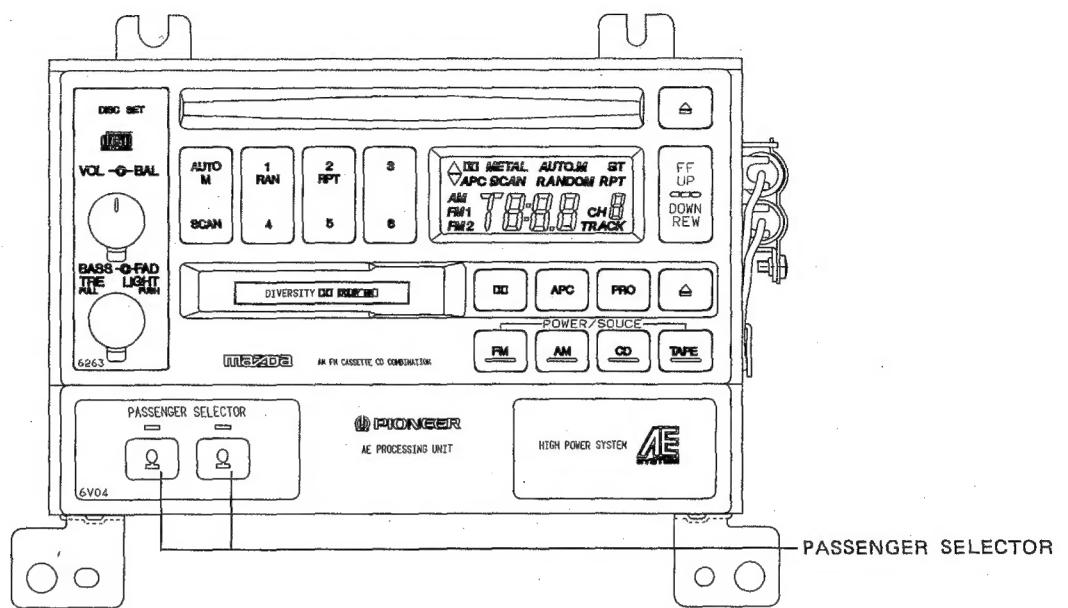


Fig. 2

DEH-K4041ZM

DEH-K4041ZM



DEH-K4141ZM

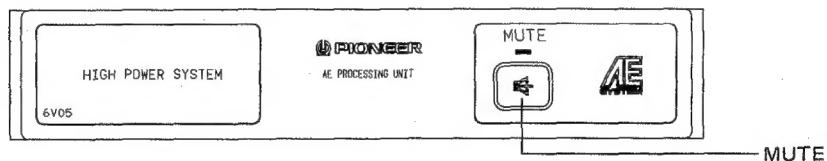


Fig. 3

3. CONNECTOR FUNCTION DESCRIPTION

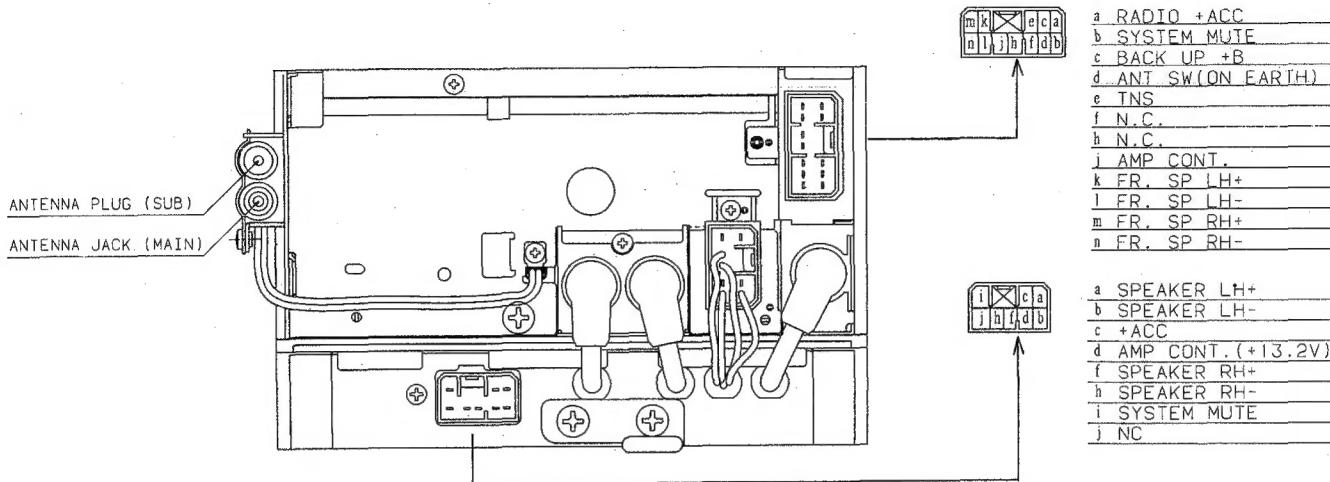


Fig. 4

4. DISASSEMBLY

• Removing the Case

1. Remove the twelve screws, and remove the bracket.
2. Remove the four screws A.
3. Disconnect the stoppers indicated by arrow, and remove the case.

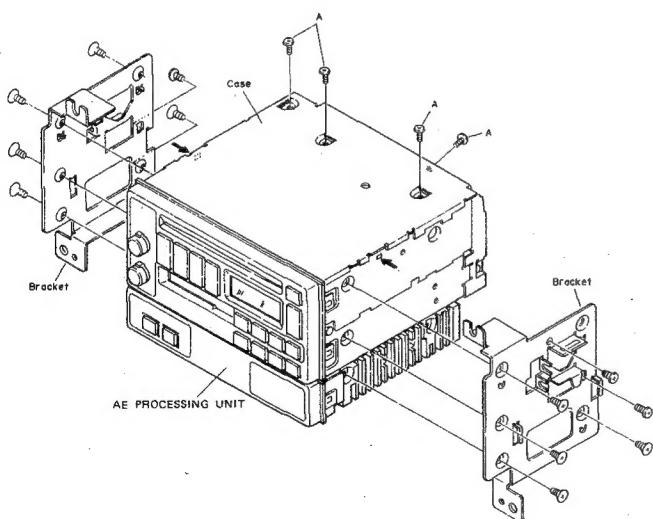


Fig. 5

• Removing the Tuner Assy

1. Remove the two screws.
2. Disconnect the two connectors, and remove the tuner assy.

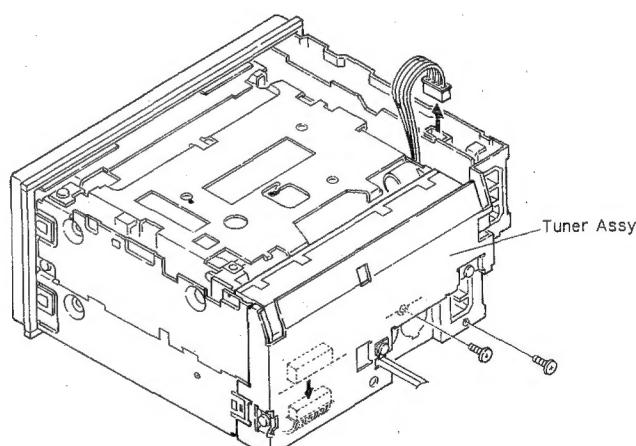


Fig. 6

• **Removing the IF · MPX P.C. Board**

1. Remove the two screws, and remove the case.
2. Remove solders at two locations indicated by arrows, and remove screw.
3. Disconnect the two connectors, and raise the IF · MPX p.c.board to remove from FE · AM p.c.board.

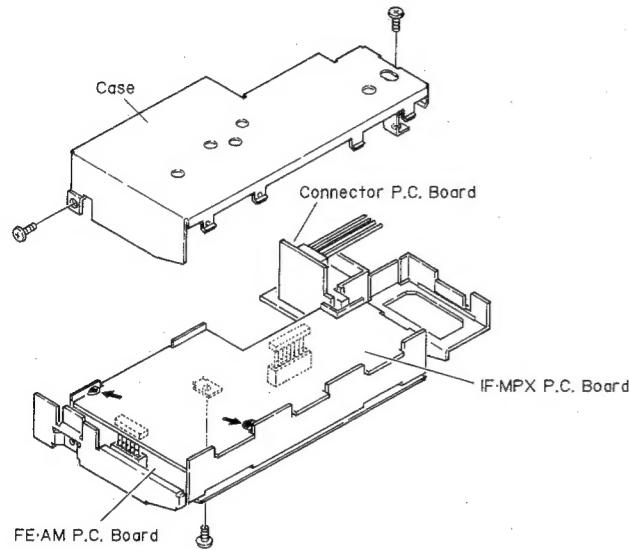


Fig. 7

• **Removing the Grille Assy**

1. Remove the four knobs.
2. Disengage the four claws indicated by arrows.
3. Disconnect the two connectors, and remove the grille assy.

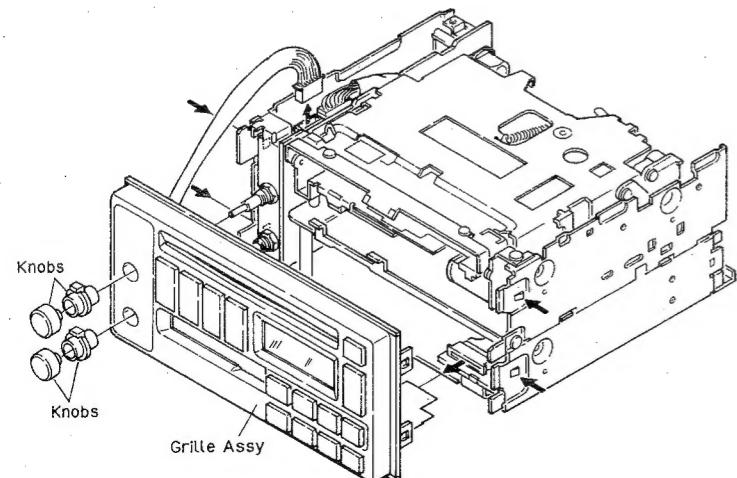


Fig. 8

• **Removing the CD Assy**

1. Remove the three screws.
2. Disconnect the two connectors, and remove the CD assy.

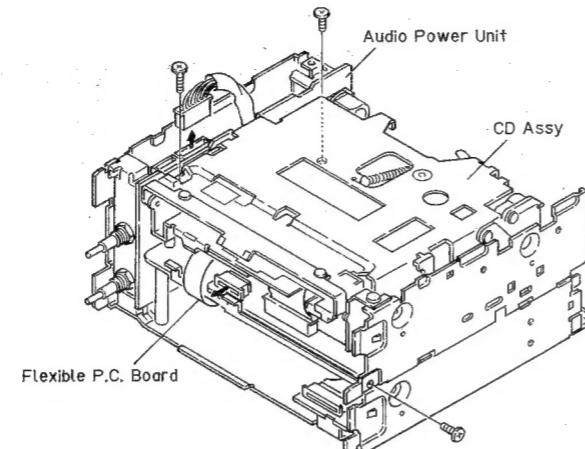


Fig. 9

• **Removing the CD Mechanism Unit**

1. Remove the three screws.
2. Disconnect the two connectors, and remove the CD mechanism unit.

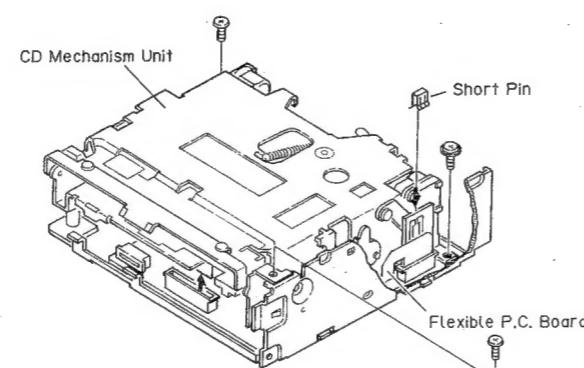


Fig. 10

NOTE: When remove the flexible p.c.board, always insert a shorting pin or insert an inter-pattern short (jumper) before disconnecting the board from the connector.

• **Removing the Cassette Mechanism Assy**

1. Remove the two screws, and remove the cover.
2. Disconnect the two connectors.
3. Remove the four screws, and remove the cassette mechanism assy.

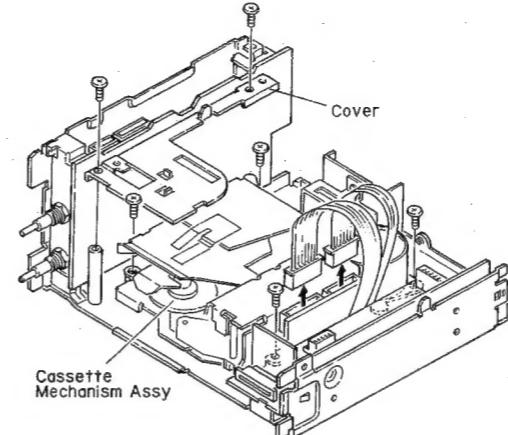


Fig. 11

• **Removing the Audio Power Unit (Fig. 12)**

1. Remove the three screws.
2. Disconnect the connector, and raise the audio power unit to remove from control p.c.board.

• **Removing the P.C. Board (Fig. 12)**

1. Disconnect the connector, and raise the p.c.board to remove from control p.c.board.

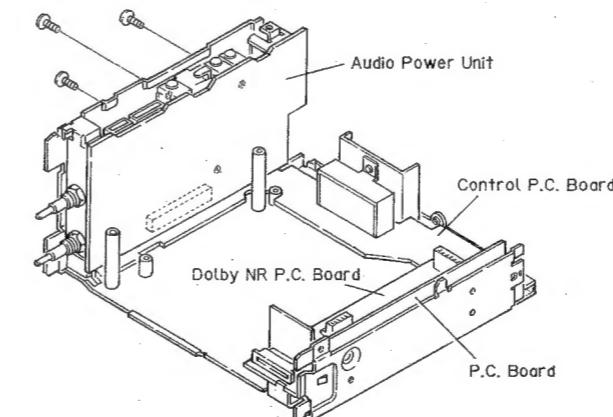


Fig. 12

• **Removing the Dolby NR P.C. Board (Fig. 12)**

1. Disconnect the connector, and raise the dolby NR p.c.board to remove from control p.c.board.

5. BLOCK DIAGRAM

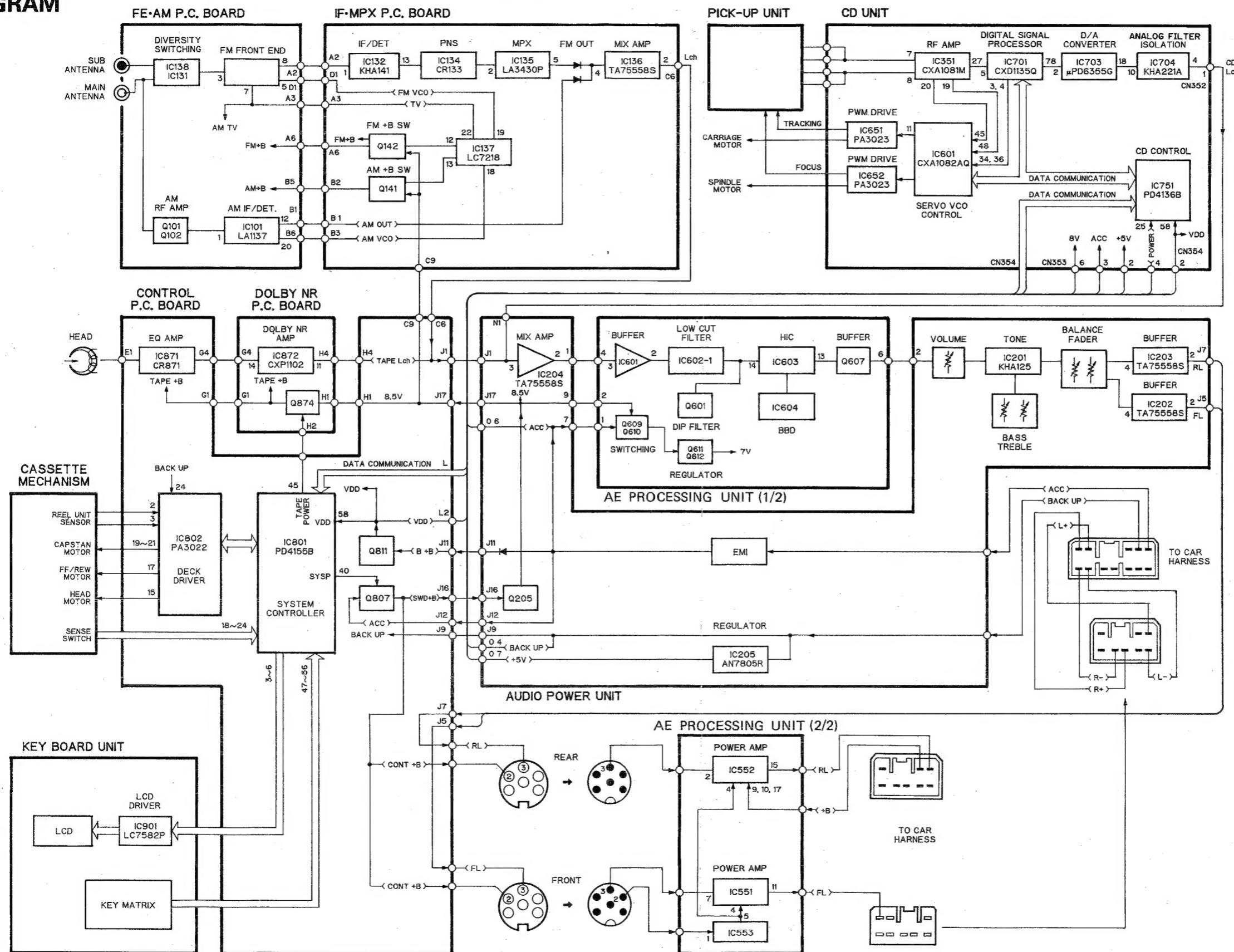


Fig. 13

6. ADJUSTMENT

- Connection Diagram

NOTICE:

Select C1 so that total capacity of 80pF attained from the direction of the receiver jack.

Z: Output impedance of SSG.

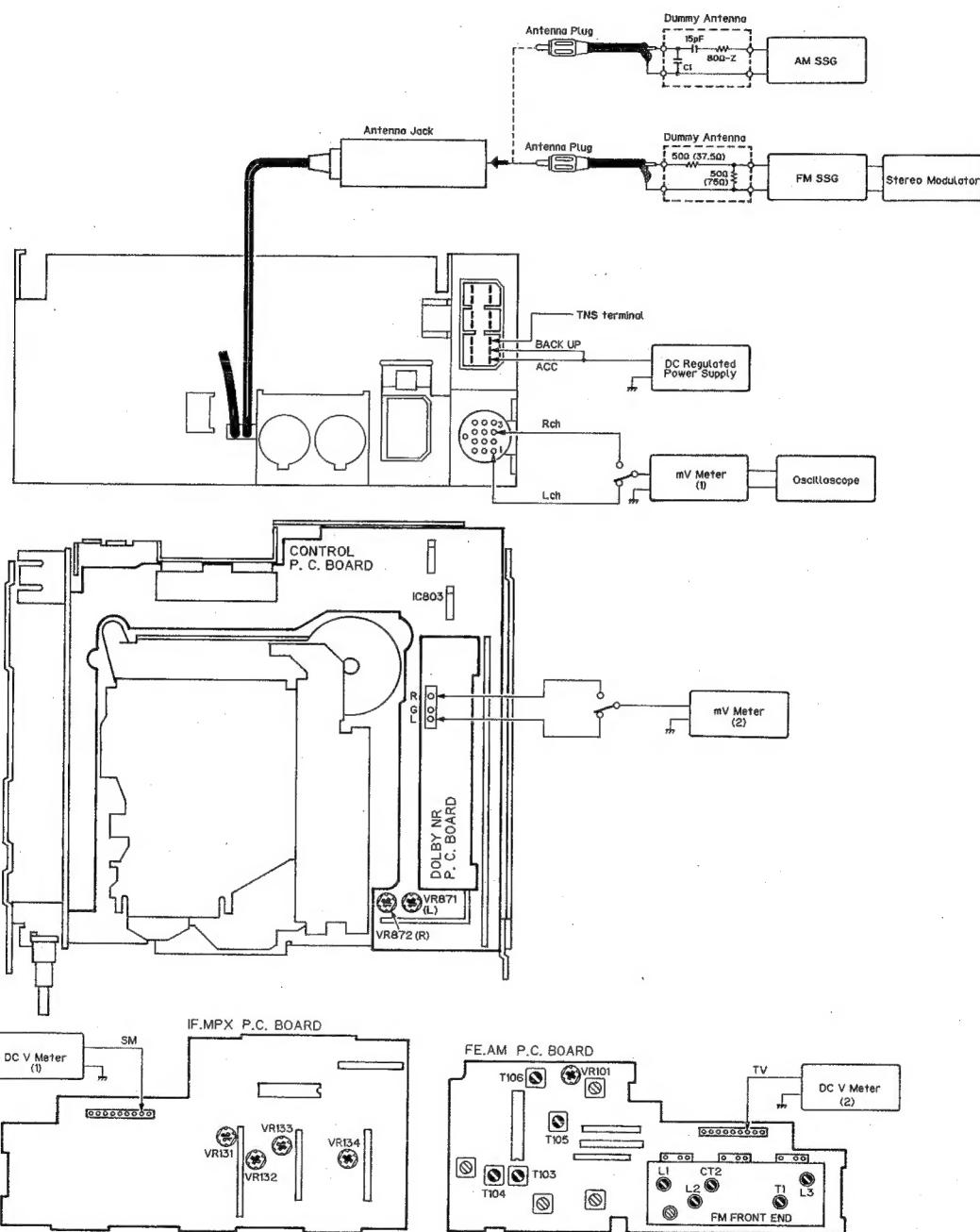


Fig. 14

DOLBY NR LEVEL ADJUSTMENT

No	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR871 (Lch), VR872 (Rch)	mV Meter (2) : -10 ± 1dB (DOLBY NR Switch: OFF)

AM ADJUSTMENT

	No.	AM SSG(400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level dB (μ V)			
IF	1	600	25	600	T103, 104 105, 106	mV Meter(1): Maximum
Tun- ing Volt	1			1,710	—	DC V meter(2): Less than 7.5V
	2			530	—	DC V meter(2): More than 0.8V
Stop sensi- tivity	1	1,000	38	1,000	VR101	Scanning stop
	2	1,000	38±10	1,000	—	Verify that the scanning stop
	3	(LOC Mode)				TNS terminal→13.2V
	4	1,000	63±10	1,000	—	Verify that the scanning stop

FM ADJUSTMENT * Stereo MOD.: 1kHz, L+R = 30%

	No.	FM SSG(400Hz, 30%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level dB (μ V)			
IF	1	98.1	10	98.1	T1	mV Meter(1): Maximum
	2	98.1	60	98.1	VR131	DC V Meter(1): 2.5V
Track- ing	1			107.9	L3	DC V Meter(2): 7.0 ± 0.1V
	2			87.9	—	DC V Meter(2): More than 1.4V
	3	89.9	10	89.9	L1, L2	mV Meter(1): Maximum
	4	106.1	10	106.1	CT2	mV Meter(1): Maximum
	5	Repeat items (3) and (4) alternately so that the mV meter(1) indicates maximum output				
MPX	1	98.1*	60	98.1	VR133	mV Meter(1): Best separation
	2	98.1*	35	98.1	VR134	mV Meter(1): Separation 5dB
Stop sensi- tivity	1	98.1	32	98.1	VR132	Scanning stop
	2	98.1	32±8	98.1	—	Verify that the scanning stop

CD ADJUSTMENT

1) Precautions

- CD section uses a single power supply (+5V) of the regulator. The signal reference potential, therefore, is connected to pin no. 14(approx. 2.5V) of IC351 (CXA-1081M) instead of GND (VC at test point)

If VC and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to VC and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to VC with the channel 2 negative probe connected to GND.

And since the frame of the measuring instruments is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident VC comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.

- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and/or electrical shocks to the system when making adjustments.

- Test mode starting procedure

Turn ACC and Back-up ON while pressing the 1/RAN and 3 keys together.

- Test mode cancelation

Turn ACC and Back-up OFF and then back ON.

- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.

- During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.

- The unit will not load a disc.

When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

2) Adjustment Point

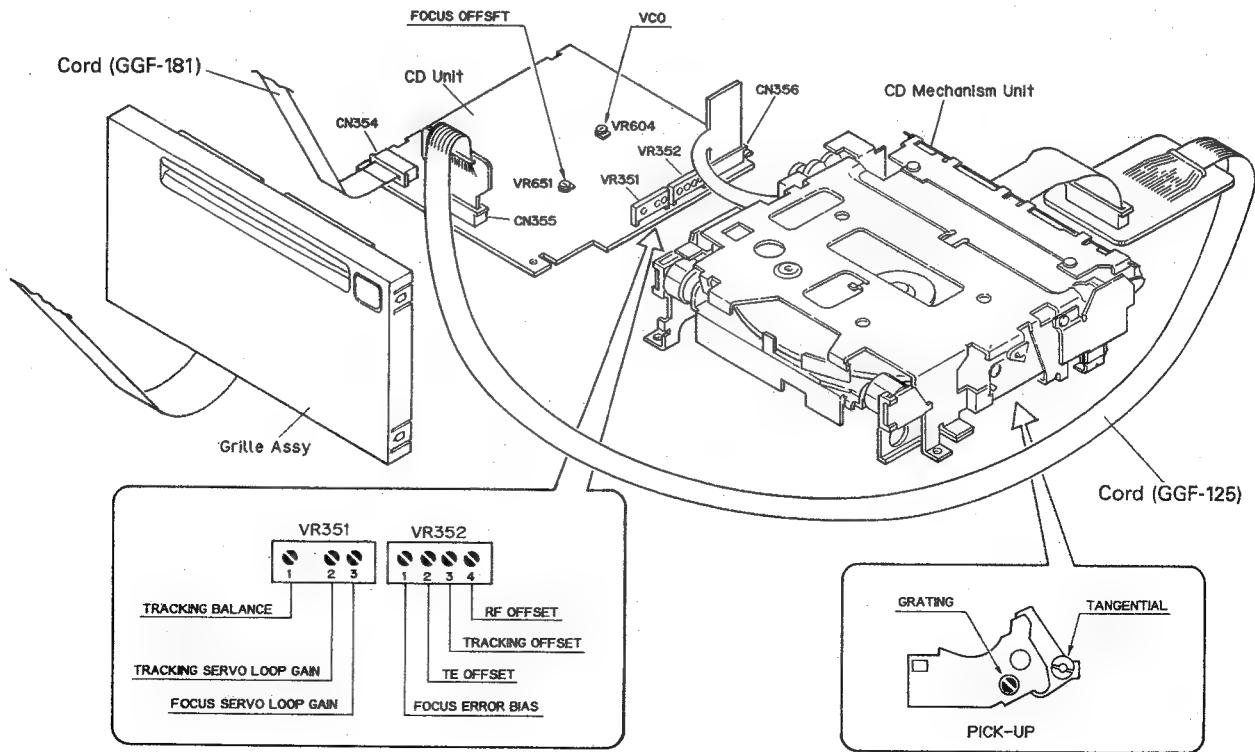


Fig. 15

● Flow Chart

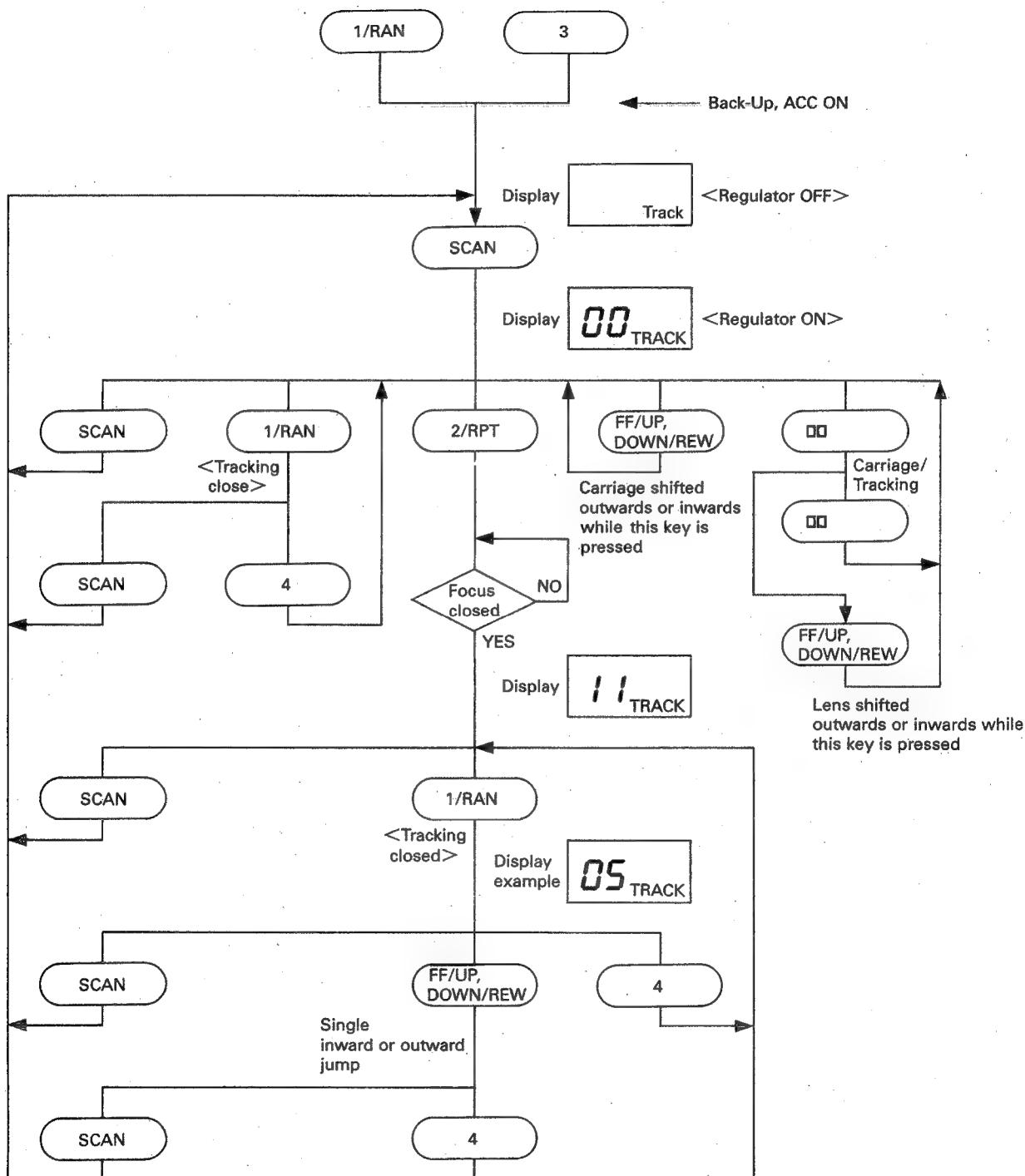


Fig. 16

- Test point

CD UNIT

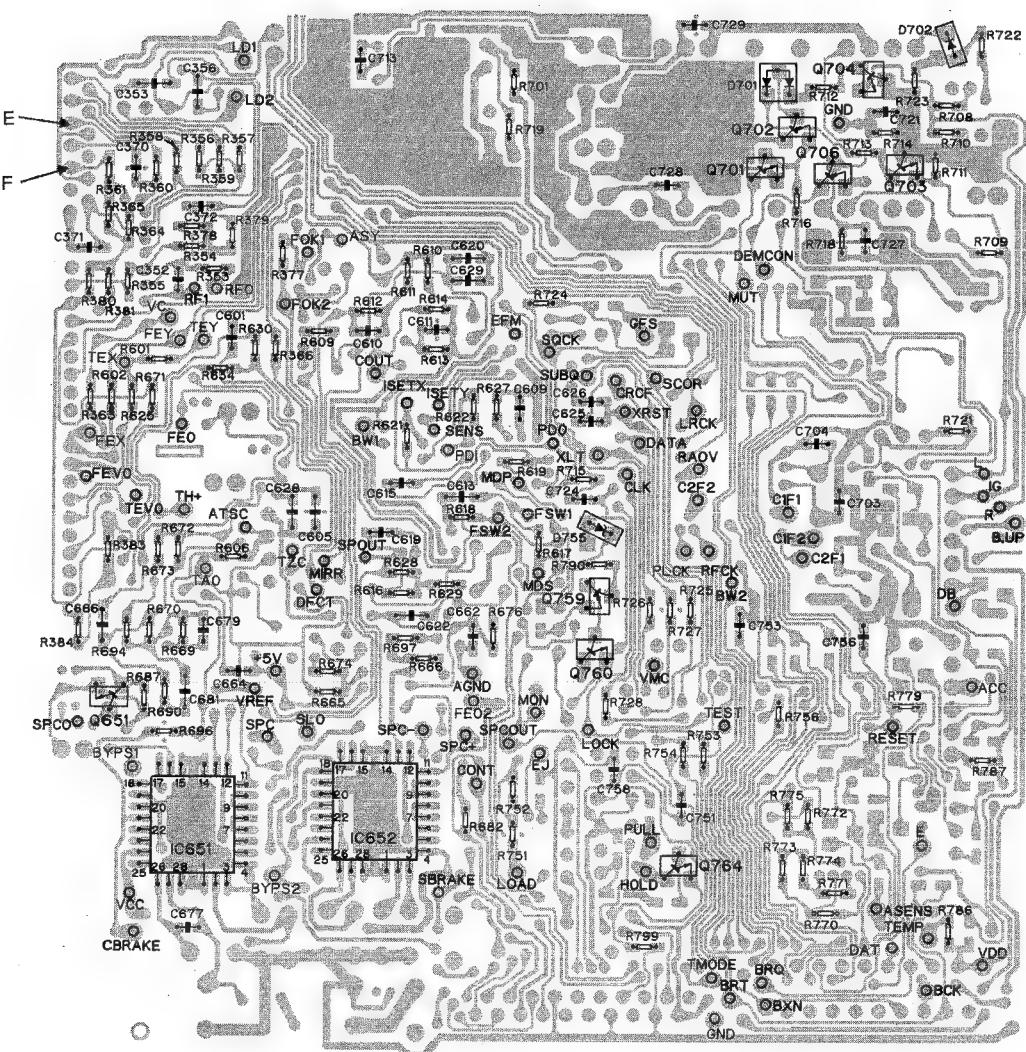


Fig. 17

6.1 Focus Offset Adjustment

- Purpose: To adjust the electrical offset of the focus amplifier to zero.
- Maladjustment symptoms: No focus closing

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> ● Multi-meter or oscilloscope ● FEO2 ● No disc, test mode ● VR651
---	--

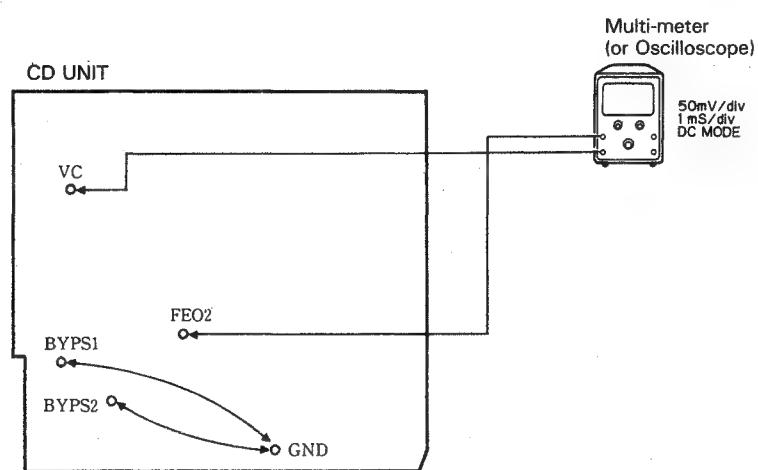


Fig. 18

Adjustment Procedure

1. Connect BYPS 1 and BYPS 2 to GND.
2. Switch regulator ON.
3. Using VR651, adjust the FEO2 DC voltage in reference to VC to a value of $0 \pm 25\text{mV}$.

6.2 VCO Free Run Frequency Adjustment

- Purpose: To adjust the EFM decoder reference clock free-run frequency to a suitable value
- Maladjustment symptoms: Spindle lock not possible, distorted sound or no sound at all

<ul style="list-style-type: none">● Measuring equipment/jigs● Measuring point● Test disc and setting● Adjustment position	<ul style="list-style-type: none">● Frequency counter, extension cables● Pin no. 70 (PLCK) of IC701 (CXD1135Q)● No disc● VR604	<ul style="list-style-type: none">● Test mode
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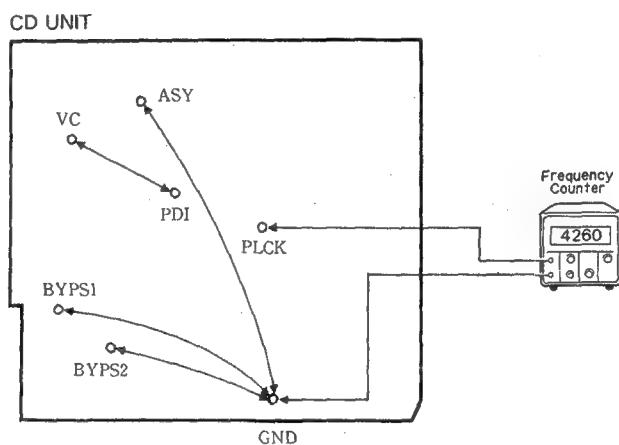


Fig. 19

Adjustment Procedure

1. Connect pin no. 26 (TP ASY) of IC351 to GND.
Connect BYPS 1 and BYPS 2 to GND.
2. Connect pin no. 1 (TP VC) of IC601 to pin no. 28 (TP PDI).
3. Switch regulator ON while in test mode.
4. Connect the frequency counter to pin no. 70 (TP PLCK) of IC701 (CXD1135Q).
5. Adjust VR604 to obtain a frequency of $4.26 \pm 0.005\text{MHz}$.
6. Switch regulator OFF.
7. Disconnect the leads connecting TP VC to TP PDI, and TP ASY to GND.

Note: Connect TP VC and TP PDI with leads kept as short as possible.

Note: Connect the frequency counter ground to TP GND as shown in the figure.

6.3 RF Offset Adjustment

- Purpose: To adjust the RF amplifier offset to a suitable value
- Maladjustment symptoms: Focus closure fails readily

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> • Oscilloscope • RFO • No disc • VR352-4 (RFO) • Test mode
---	--

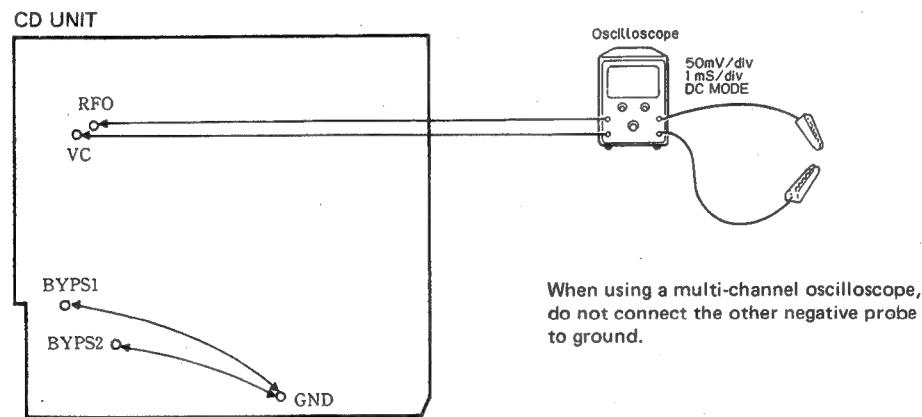


Fig. 20

Adjustment Procedure

1. Connect BYPS 1 and BYPS 2 to GND.
2. Switch regulator ON.
3. Using the oscilloscope, measure the RFO DC voltage in reference to VC, and adjust VR352-4 (RFO) to obtain a reading of $+250 \pm 25\text{mV}$.

6.4 Tracking Offset Adjustment

- Purpose: To adjust the electrical offset of the tracking amplifier to zero
- Maladjustment symptoms: Search times too long, carriage run-away

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> ● Oscilloscope ● TAO low-pass filter output ● No disc • Test mode ● VR352-3 (TO)
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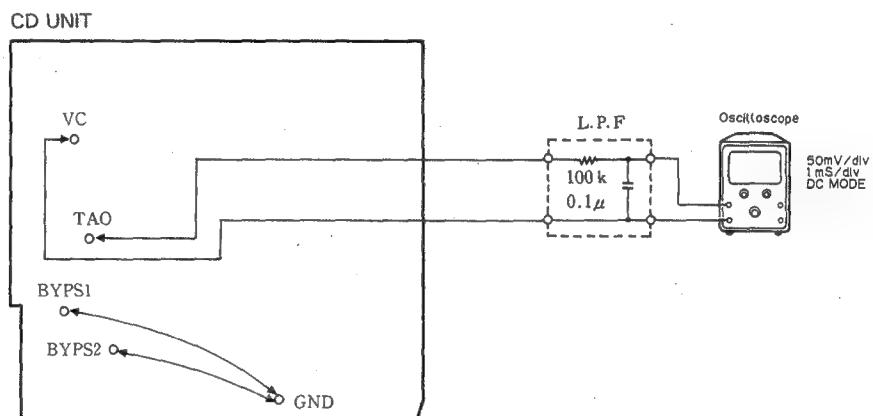


Fig. 21

Adjustment Procedure

1. Insert a low-pass filter between TAO and VC.
2. Check that BYPS 1 and BYPS 2 are connected to GND.
3. Switch regulator ON.
4. Using the oscilloscope, measure the TAO LPF output DC voltage in reference to VC, and adjust VR352-3 (TO) to obtain a reading of $0 \pm 25\text{mV}$.

The low-pass filter may be left in place for later adjustments.

6.5 TE Offset Adjustment - I

- Purpose: To adjust the electrical offset of the tracking servo to zero.
- Maladjustment symptoms: Search times too long, carriage run-away

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> • DC voltmeter • TAO low-pass filter output • No disc • Test mode • VR352-2 (TEO)
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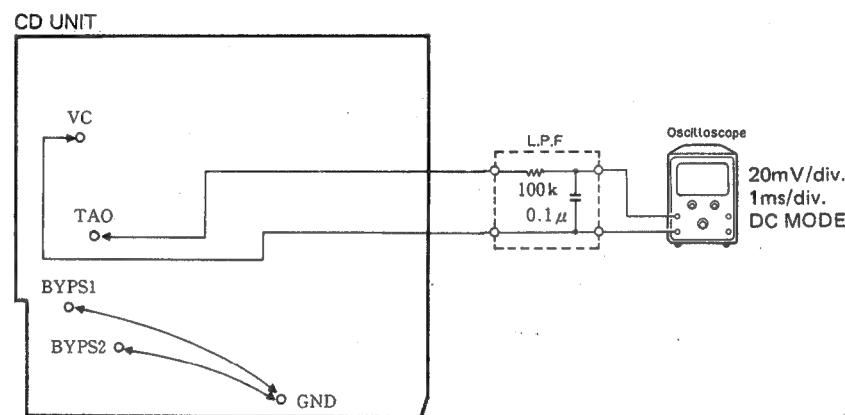


Fig. 22

Adjustment Procedure

1. Check that BYPS 1 and BYPS 2 are connected to GND.
2. Switch regulator ON while in test mode.
3. Press the **1/RAN** key to close tracking.
4. Using VR352-2 (TEO), adjust the TAO LPF output DC voltage in reference to VC to a value of $0 \pm 10\text{mV}$.
5. Switch regulator OFF.

6.6 Tracking Balance Adjustment - I

- Purpose: To adjust the tracking servo offset to zero.
- Maladjustment symptoms: Search times too long, poor playability, carriage run-away

<ul style="list-style-type: none"> • Measuring equipment/jigs • Measuring point • Test disc and setting • Adjustment position 	<ul style="list-style-type: none"> • Oscilloscope • TEY (Tracking error signal), low-pass filter output • SONY TYPE 4 (or TYPE 3) • VR351-1 (T. BAL) • Test mode
---	---

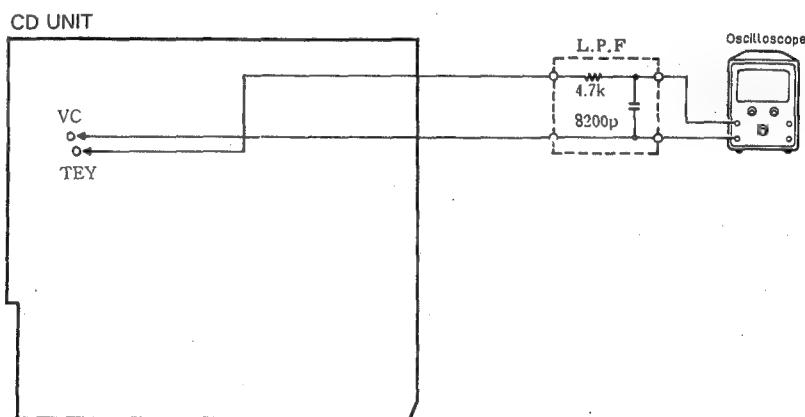
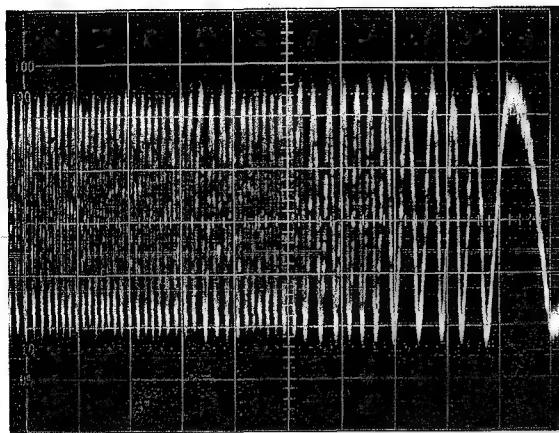


Fig. 23

Adjustment Procedure

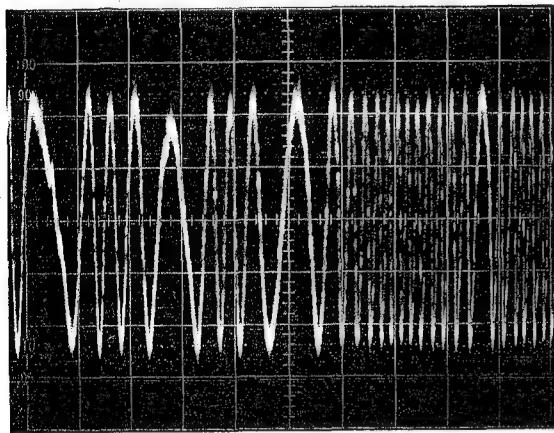
1. After checking that regulator is OFF, connect the low-pass filter as shown in the diagram.
2. Disconnect BYPS 1 and BYPS 2 from ground.
3. Set the test disc (SONY TYPE 4) in magazine tray 6 and load the magazine. Switch regulator ON.
4. Using the **FF/UP** or **DOWN/REW** key, move the pickup to about the center of the signal surface.
5. Press the **2/RPT** key to close focus.
6. Using an oscilloscope, observe the TEY signal in respect to VC. Then adjust VR351-1 (T. BAL) to set the positive and negative amplitudes to the same levels. (See Fig. 24-26)
7. Switch the power OFF.

The low-pass filter may be left in place for later adjustments.



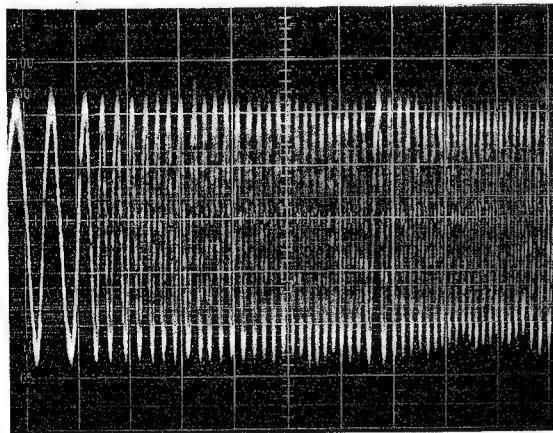
+5% NG

Fig. 24



±0% OK

Fig. 25



-5% NG

10ms/div.
0.2V/div.
DC Mode

Fig. 26

6.7 Tangential Skew Check

- Purpose: To check whether tangential skew has been misaligned or not when replacing the pick-up unit.
- Maladjustment symptoms: No disc playback; track jumping

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> • Oscilloscope, extension connectors, screwdriver • RFO • SONY TYPE 4 (or TYPE 3) • Normal mode • Pick-up tangential adjustment screw
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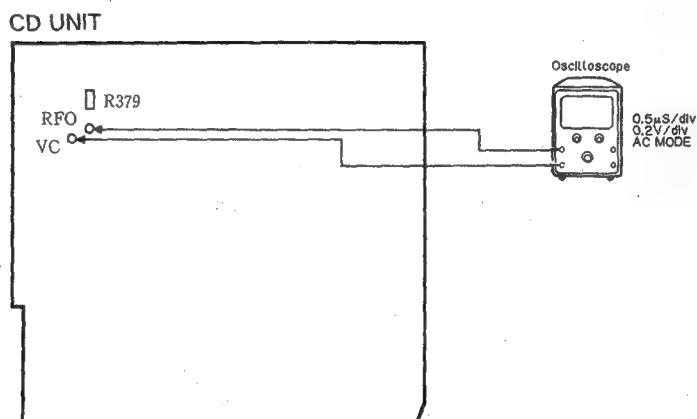
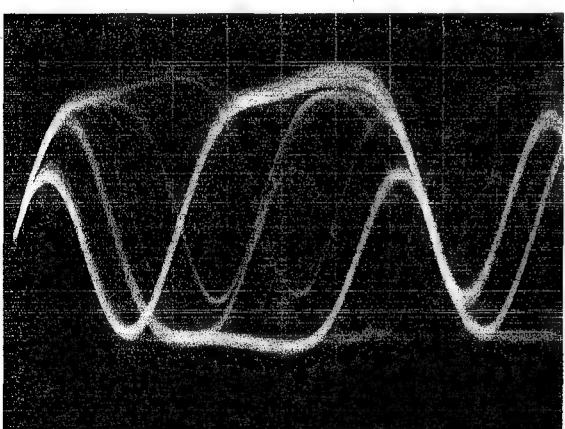
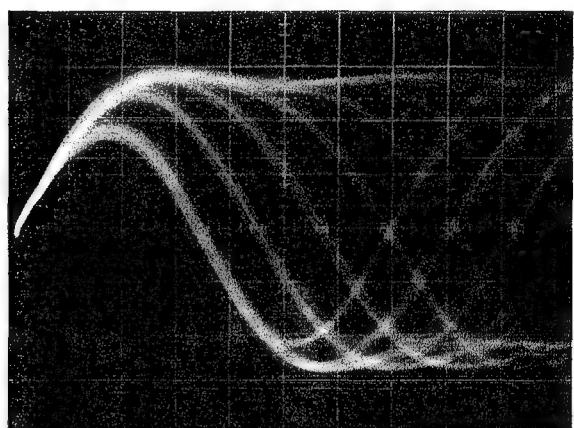
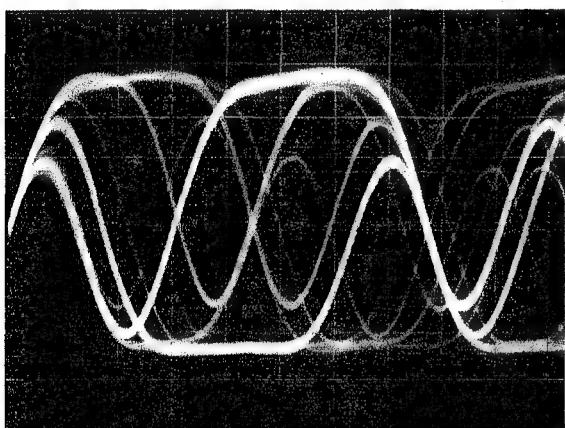
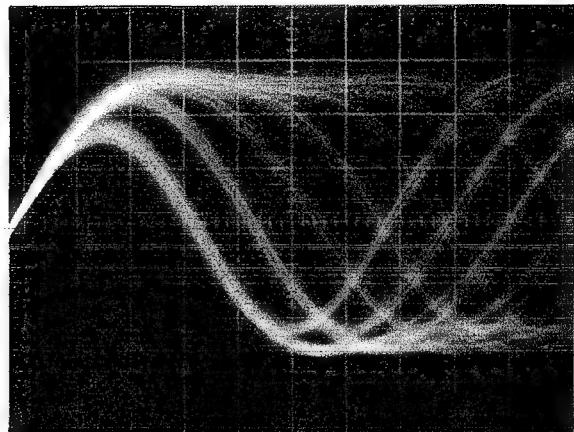
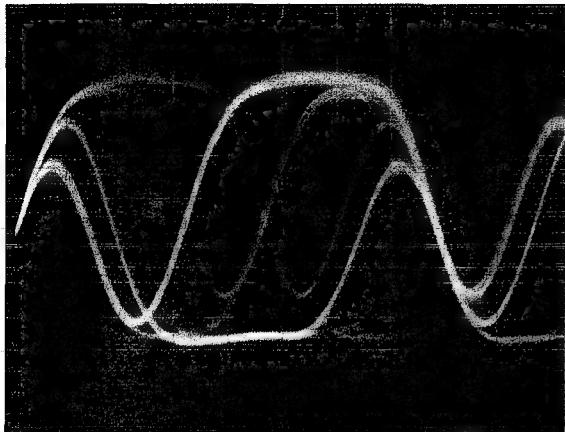


Fig. 27

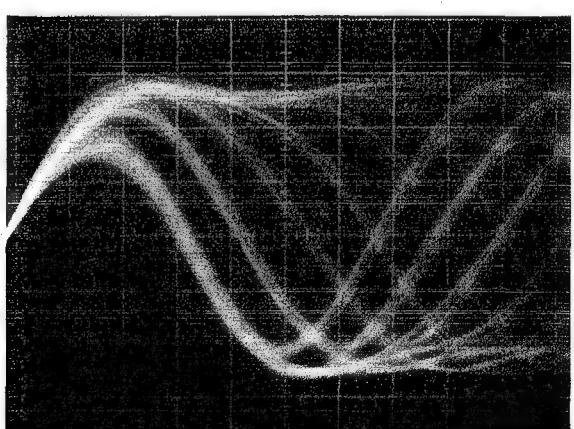
Adjustment Procedure (with R379 removed)

1. Remove R379 (but reconnect after completing adjustment).
2. Play tune TNO 7 in normal mode. (TYPE 3: TNO 23)
3. Check that the valley at the 11T section of the RF waveform is flat.
4. If out of adjustment, readjust to obtain a flat RF waveform. (See Fig. 28—33) Take care not to knock the pick-up with the screwdriver at this stage. (This kind of accident can result in loss of focus.)
5. Switch the power OFF and reconnect R379.
6. Apply "screw-lock" to the tangential adjustment screw.
7. After adjusting tangential skew, also adjust the grating.
8. If tangential skew is seriously out of adjustment, carriage stopping and run-away tend to occur in normal mode. In this case,
 - a) Switch to test mode,
 - b) Shift the pick-up to signal surface center using **FF/UP** or **DOWN/REW** key.
 - c) Press the **2/RPT** key to close focus.
 - d) Press the **1/RAN** key to close the tracking.

- e) Observe RFO in respect to VC, and turn the tangential adjustment screw to obtain a flat waveform at the 11T section.
- f) Repeat the adjustment resuming from step 2.



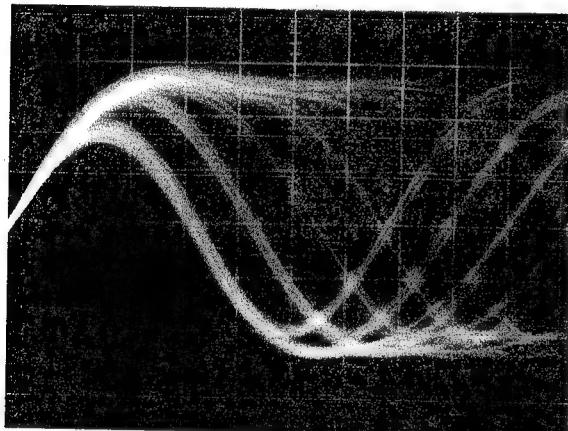
Play tune TNO 7 (TYPE4)



Play tune TNO 12 (TYPE4)

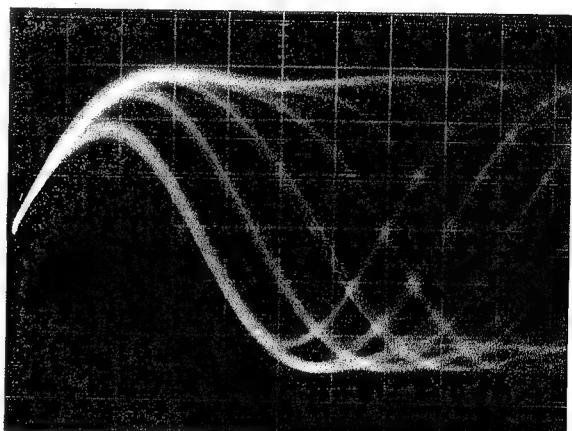
Adjustment Procedure (without R379 removed)

1. Play tune TNO 12 in normal mode. (TYPE 3: TNO 14)
2. Turn the tangential adjustment screw to obtain a good RF waveform eye pattern. Turn the adjustment screw both clockwise and counterclockwise to points where the eye pattern deteriorates, and take the midway point as the adjustment point. As a general guide, look for an overall clear waveform, and one of the diamond shapes in the eye pattern. The diamond shapes should appear in fine lines at the point of optimum adjustment. Take care not to knock the pick-up with the screwdriver at this stage. (This kind of accident can result in loss of focus.) (See Fig. 34-36)

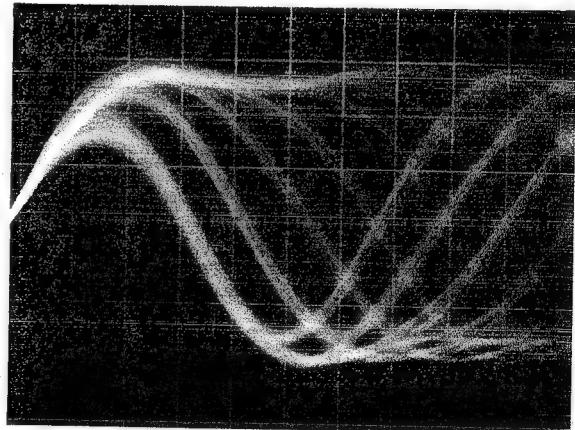


NG Fig. 34

3. Apply "screw-lock" to the tangential adjustment screw.
4. After adjusting tangential skew, also adjust the grating.



OK Fig. 35



NG Fig. 36

6.8 Grating Adjustment

- Purpose: The grating may need adjustment in a replaced pick-up assembly.
- Maladjustment symptoms: No disc playback; track jumping

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> • Oscilloscope, clock driver, grating adjustment filter (bandpass filter), AC millivoltmeter, two low-pass filters • TEY, E LPF output, F LPF output • SONY TYPE 4 (or TYPE 3) • Test mode • Pick-up grating adjustment hole
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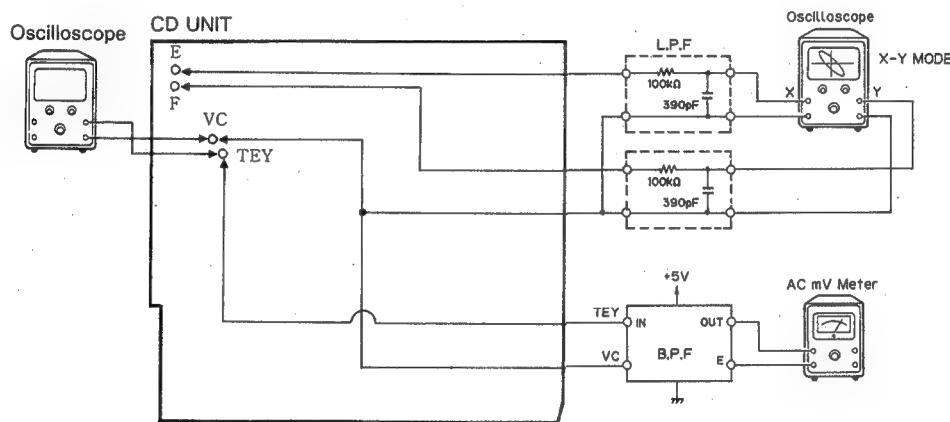


Fig. 37

Adjustment Procedure

1. Connect a low-pass filter (100k, 390p) to test points E, F, and VC as shown in the above diagram.
2. Switch regulator ON in test mode, and load a disc.
3. Press the **2/RPT** key to close focus.
4. Press the **1/RAN** key to close tracking.
5. Press the **FF/UP** or **DOWN/REW** key, move the pick-up to about the center of the signal surface (tune TNO 6). (TYPE 3: TNO 7)
6. Press the **SCAN** key to open tracking.
7. While monitoring the TEY filter output by AC millivoltmeter, turn the grating adjustment hole slowly. The AC voltage increases and decreases while turning the screw. Search for the minimum voltage level. (This corresponds to the position where the grating is on a track, and is referred to as the null point.)
8. Then while monitoring TEY by oscilloscope, turn the driver slowly clockwise from the null point (as seen from under the lens) until the first waveform peak amplitude is reached. (See Fig. 39-44)

9. With the E low-pass filter output connected to the X axis of the oscilloscope, and the F low-pass filter output connected to the Y axis, apply an input in AC mode and observe the Lissajous figure.
10. Using the driver, adjust the Lissajous figure to a single line (or as close as possible).
11. Switch regulator OFF and remove the filters.

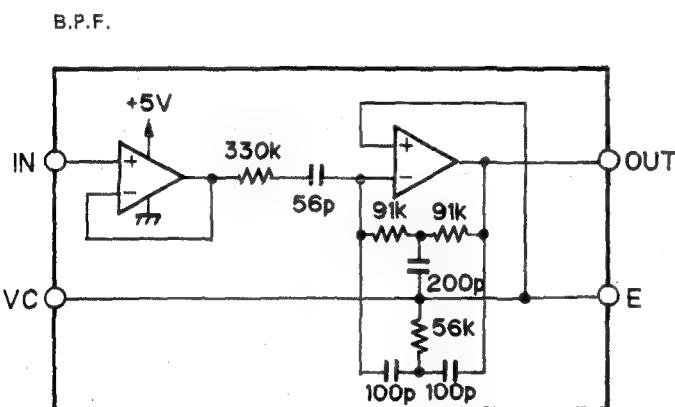


Fig. 38

TEY waveform 10ms/div, 500mV/div

Null Point

Lissajous figure (AC input)
Horizontal axis E 20mV/div
Vertical axis F 20mV/div

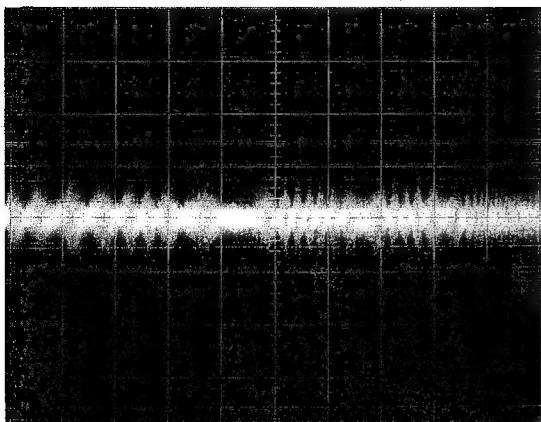


Fig. 39

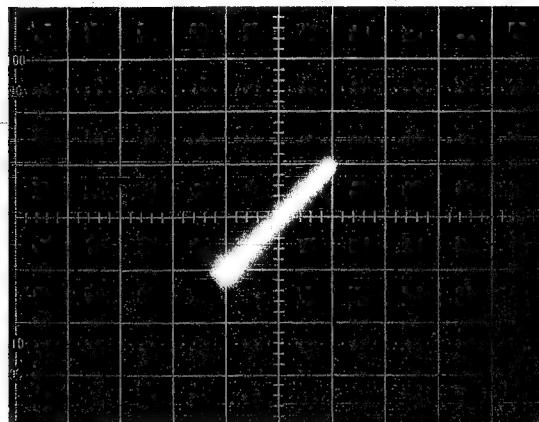


Fig. 40

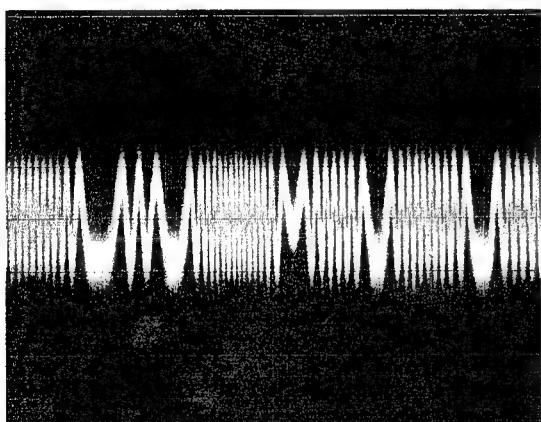


Fig. 41

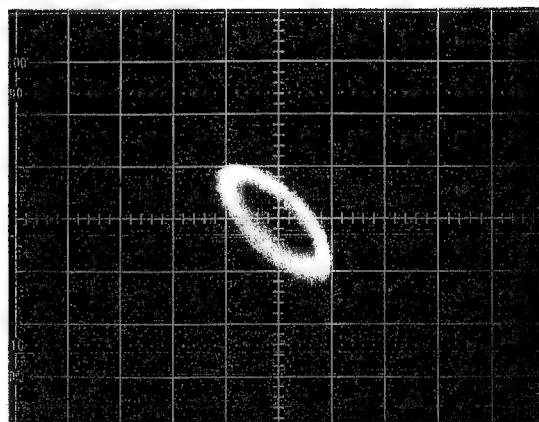


Fig. 42

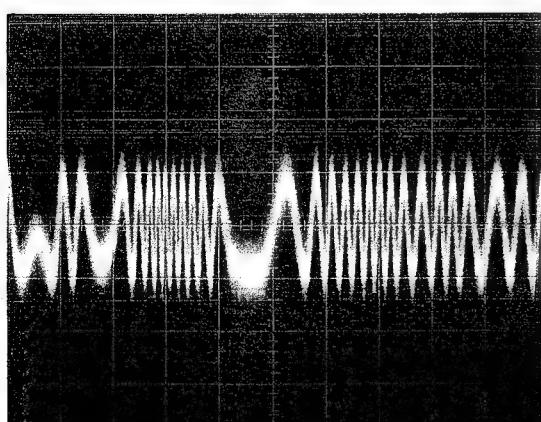


Fig. 43

Final adjustment

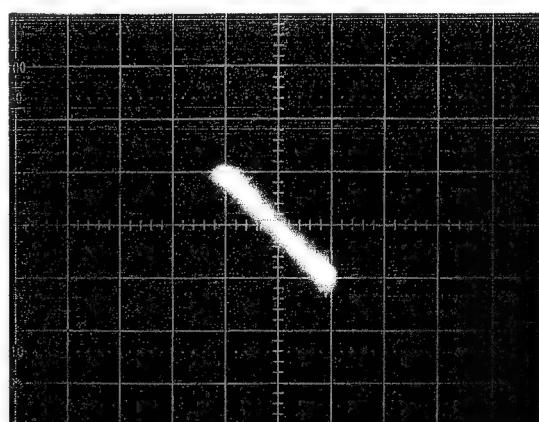


Fig. 44

6.9 Focus Bias Adjustment

- Purpose: To adjust the focus servo bias to an optimum value
- Maladjustment symptoms: Focus closing difficulty, poor playability

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> • Oscilloscope • RFO • SONY TYPE 4 (or TYPE 3) • VR352-1 (FEB) • Normal mode
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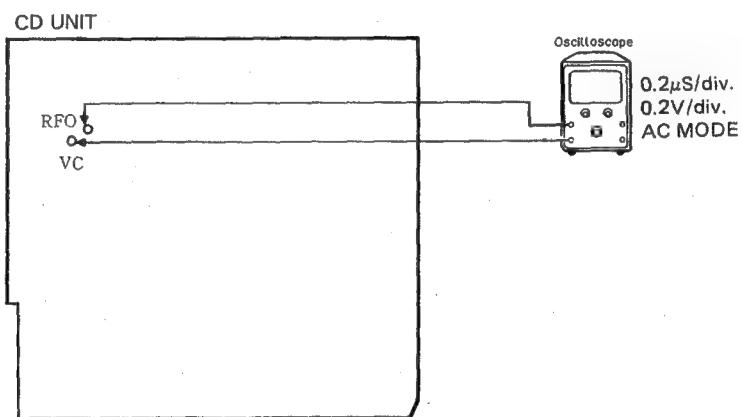


Fig. 45

Adjustment Procedure

1. Play tune TNO 12 in normal mode. (TYPE 3: TNO 14)
2. Observe RFO in respect to VC in the oscilloscope, and adjust VR352-1 (FEB) to obtain maximum RF and optimum eye pattern. (See Fig. 46 and 47)

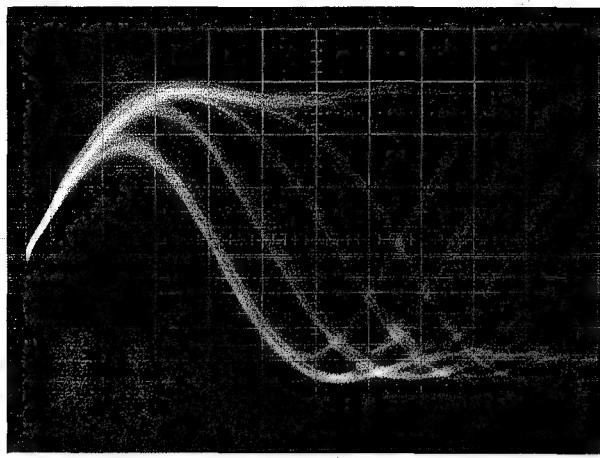


Fig. 46

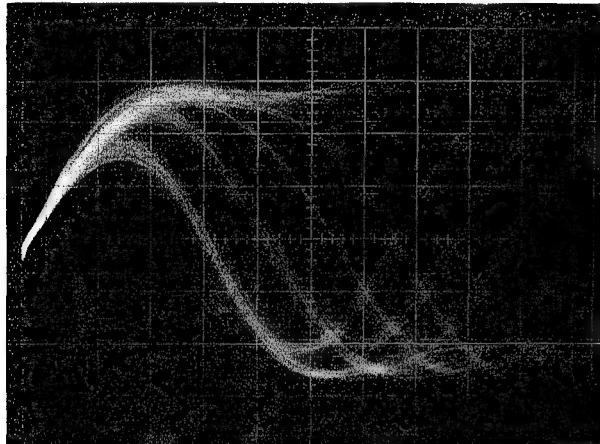


Fig. 47

0.2 μ s/div.
0.2V/div.
AC Mode

6.10 Focus Servo Loop Gain Adjustment

- Purpose: To adjust the focus servo loop gain to an optimum value
- Maladjustment symptoms: Poor playability, reduced resistance to vibration, focus closure fails readily

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> ● Oscillator, gain adjustment filter, dual meter milli-voltmeter ● Same as for CDX-2 ● FEX, FEY ● SONY TYPE 4 (or TYPE 3) ● Normal mode ● VR351-3 (FG)
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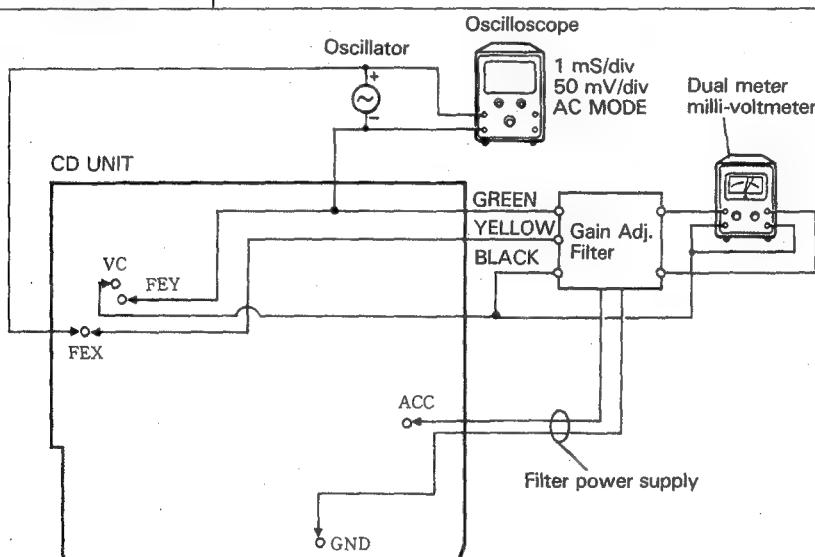


Fig. 48

Adjustment Procedure

1. After checking that the power is OFF, connect the gain adjustment filter and measuring equipment as shown in the above diagram.
2. Play tune TNO 12 in normal mode. (TYPE 3: TNO 14)
3. Set the oscillator to 1kHz, and observe the FEX/FEY output in the oscilloscope. Adjust the oscillator output to obtain a FEX/FEY output of 200mVp-p.
4. Adjust VR351-3 (FG) to obtain a milli-voltmeter difference of $0 \pm 0.5\text{dB}$.

6.11 Tracking Servo Loop Gain Adjustment

- Purpose: To adjust the tracking servo loop gain to an optimum value
- Maladjustment symptoms: Poor playability, reduced resistance to vibration

<ul style="list-style-type: none"> ● Measuring equipment/jigs ● Measuring point ● Test disc and setting ● Adjustment position 	<ul style="list-style-type: none"> • Oscillator, gain adjustment filter, dual meter milli-voltmeter • TEX, TEY • SONY TYPE 4 (or TYPE 3) • Normal mode • VR351-2 (TG)
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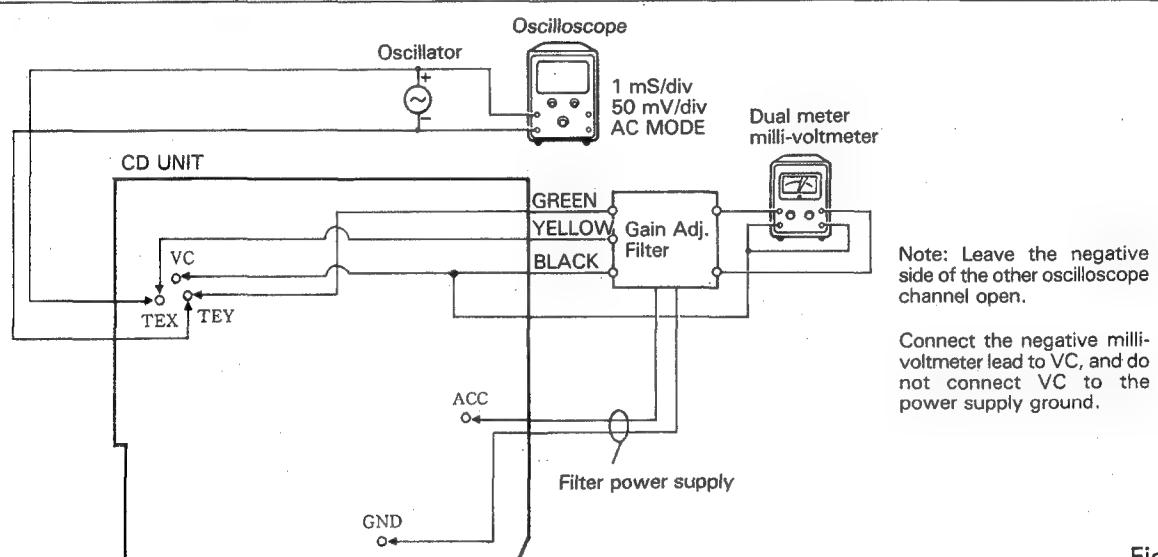


Fig. 49

Adjustment Procedure

1. After checking that the power is OFF, connect the gain adjustment filter and measuring equipment as shown in the above diagram.
2. Play tune TNO 12 in normal mode. (TYPE 3: TNO 14)
3. Set the oscillator to 1.4kHz, and observe the TEX/TEY output in the oscilloscope. Adjust the oscillator output to obtain a TEX/TEY output of 200mVp-p.
4. Adjust VR351-2 (TG) to obtain a milli-voltmeter difference of $0 \pm 0.5\text{dB}$.

6.12 TE Offset Adjustment - II

- Purpose: To adjust the electrical offset of the tracking servo to zero.
- Maladjustment symptoms: Search times too long, carriage run-away

<ul style="list-style-type: none">● Measuring equipment/jigs● Measuring point● Test disc and setting● Adjustment position	<ul style="list-style-type: none">● DC voltmeter● TAO low-pass filter output● No disc ● Test mode● VR352-2
--	--

Adjustment Procedure

Same as for TE offset adjustment - I, but with the DC voltage of the TAO LPF output adjusted to $0 \pm 50\text{mV}$.

The purpose of this additional adjustment is to correct any deviations generated when carrying out the tracking balance and tracking servo loop gain adjustments after completing TE offset adjustment - I.

6.13 Tracking Balance Adjustment - II

- Purpose: To adjust the tracking servo offset to zero.
- Maladjustment symptoms: Search times too long, poor playability, carriage run-away

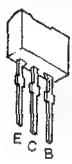
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--	---

Adjustment Procedure

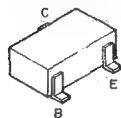
Steps 1 thru 5 same as tracking balance adjustment-I.

6. Check that the level difference between the positive and negative amplitudes of the TEY signal is within 5% (See Fig. 24-26). If greater than 5%, adjust with VR351-1.
7. If further adjustment was necessary in step 6, repeat TE offset adjustment - II.

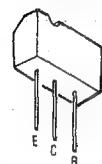
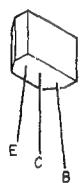
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2SD1864
2SD1226M

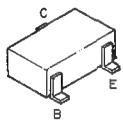
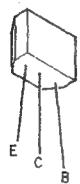
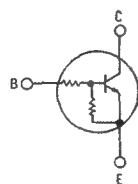
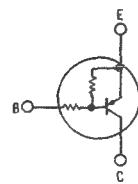
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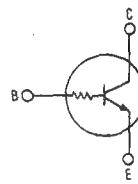
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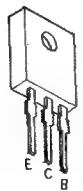
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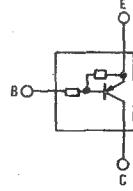
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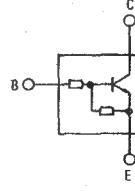
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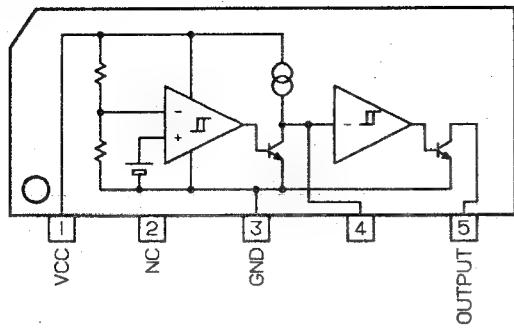
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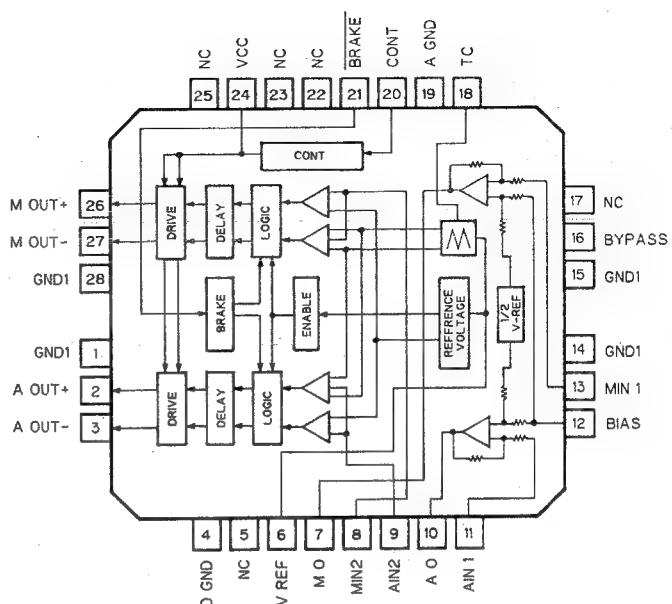
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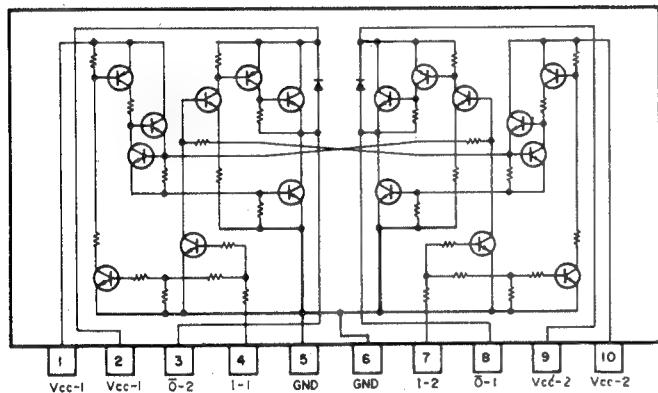
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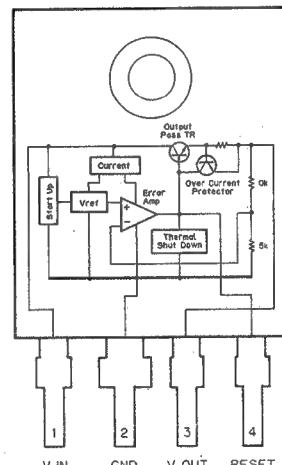
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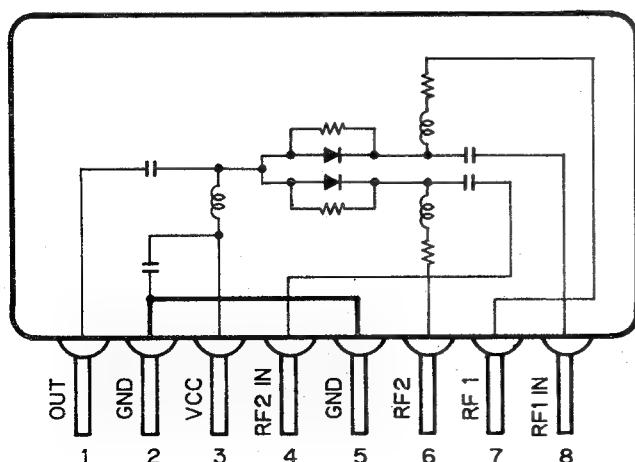
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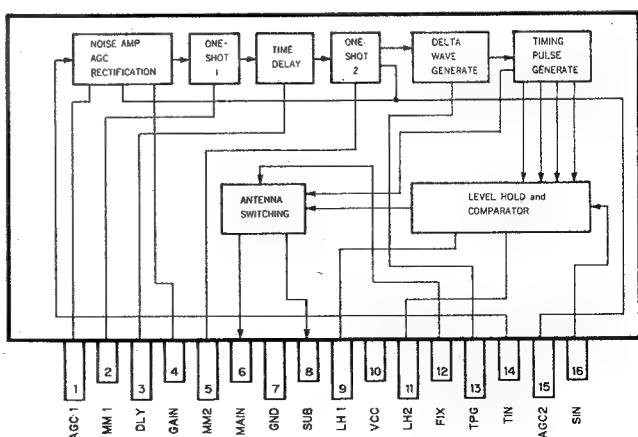
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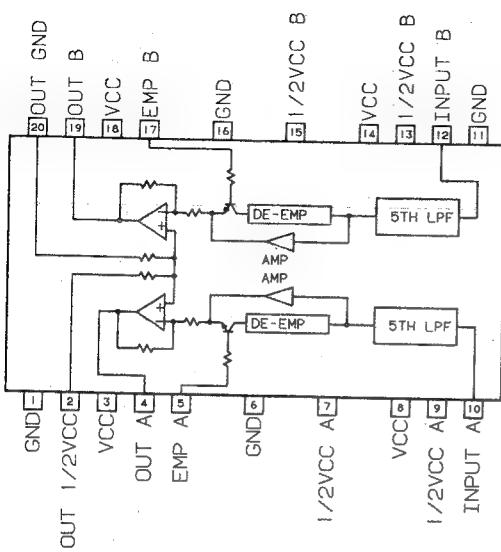
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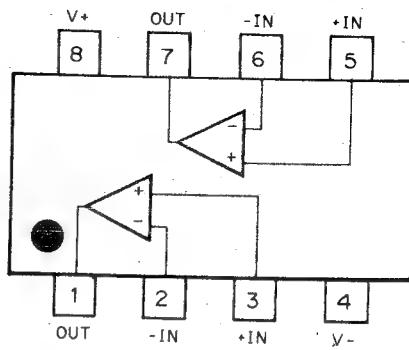
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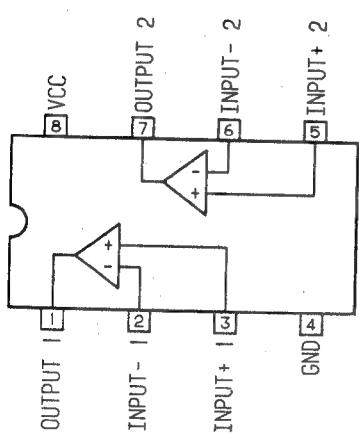
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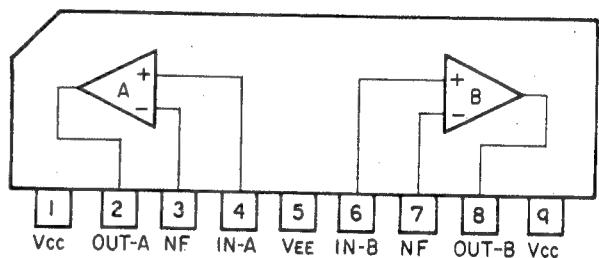
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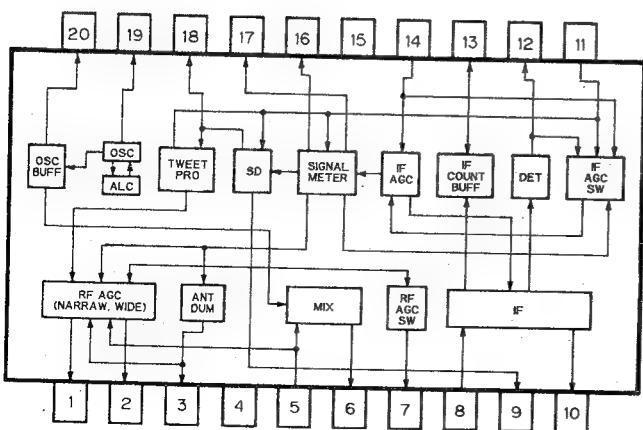
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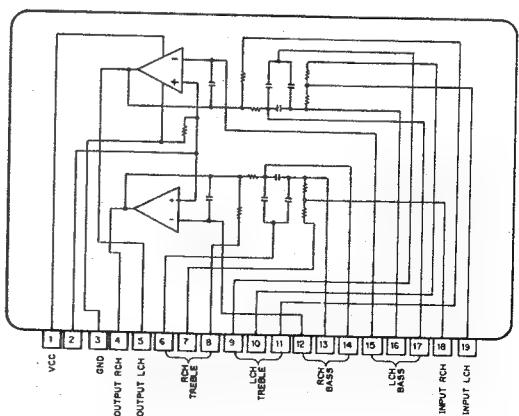
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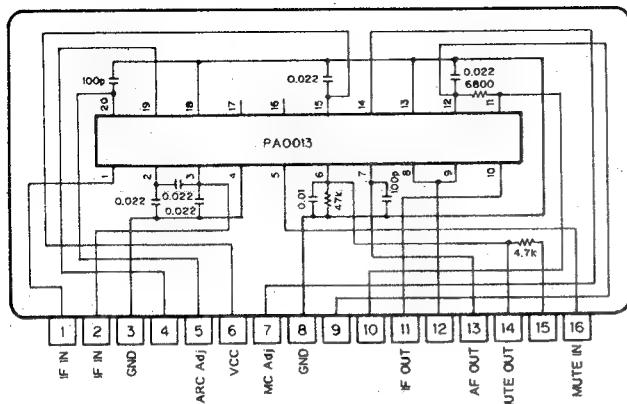
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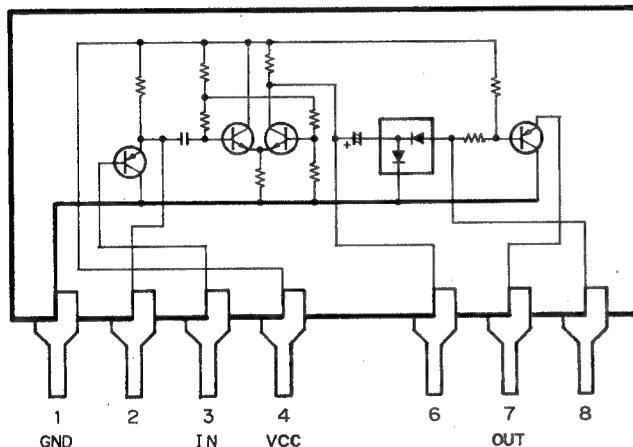
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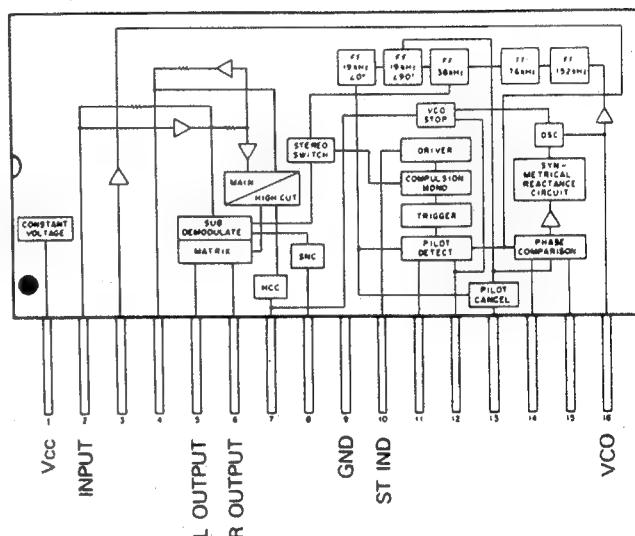
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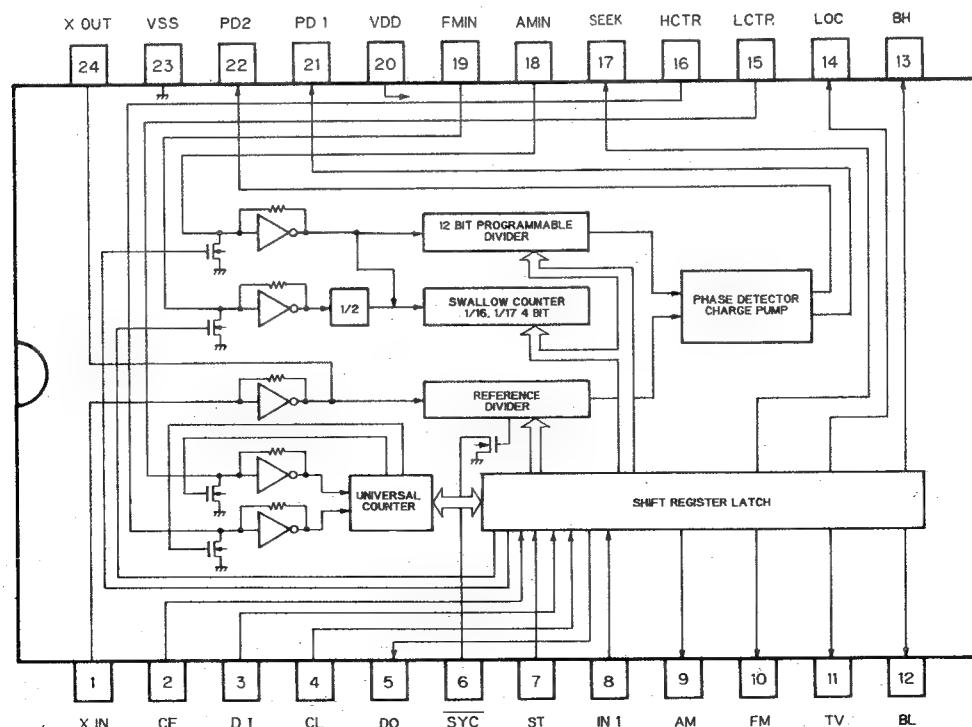
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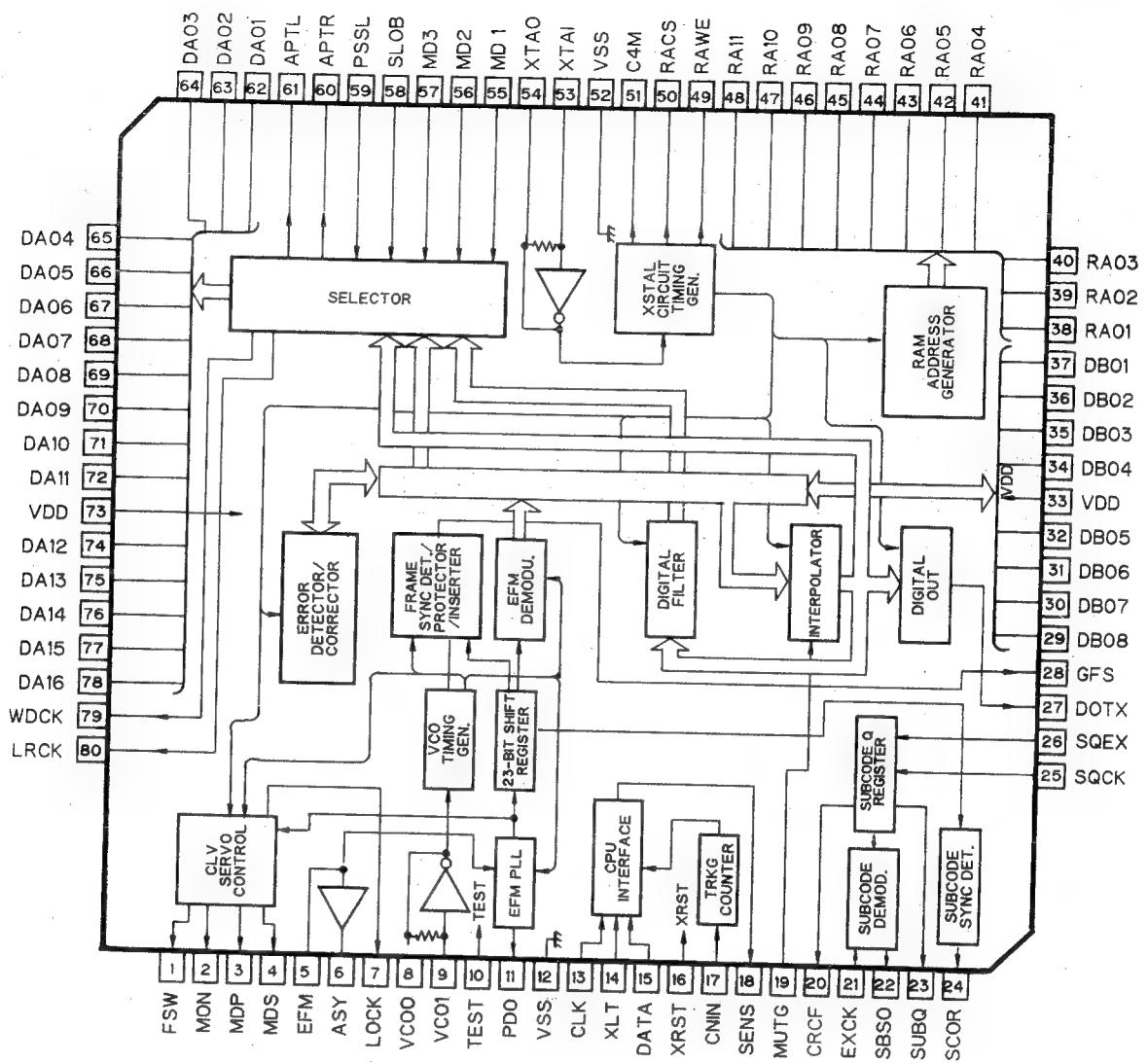
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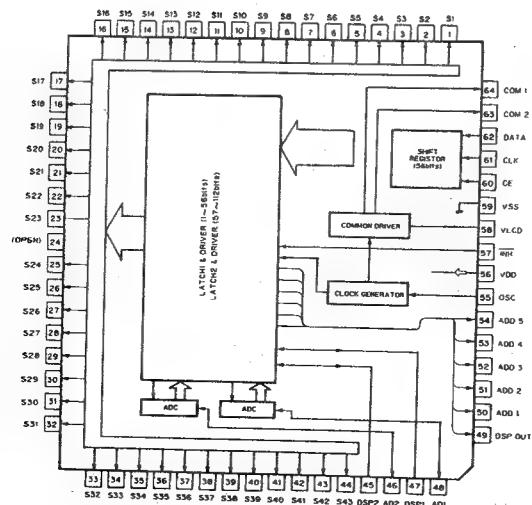
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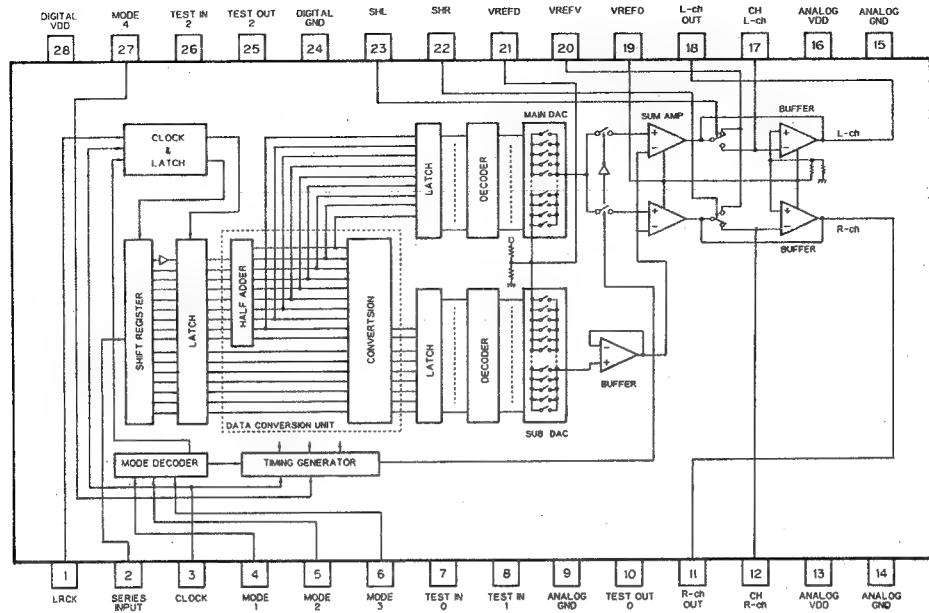


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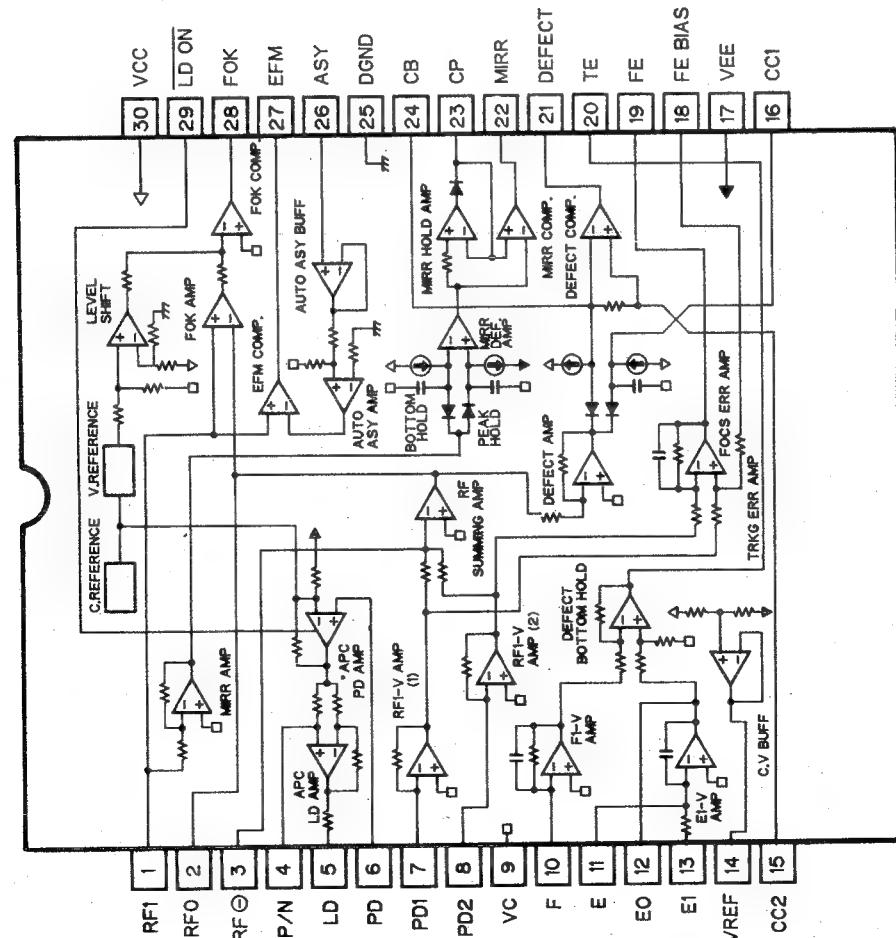


IC's marked by * are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

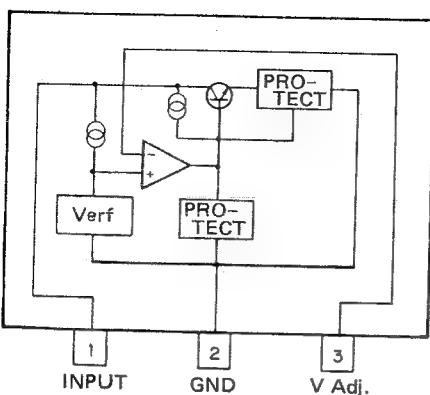
*μPD6355G



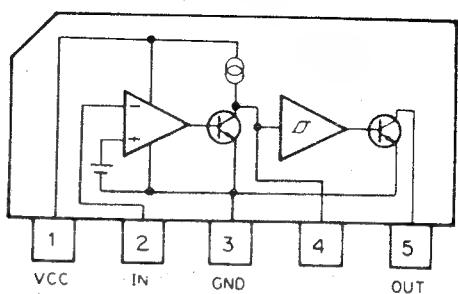
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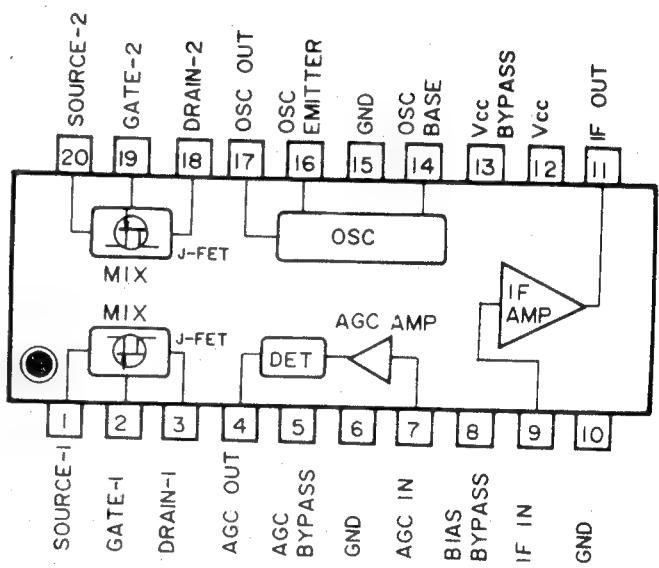
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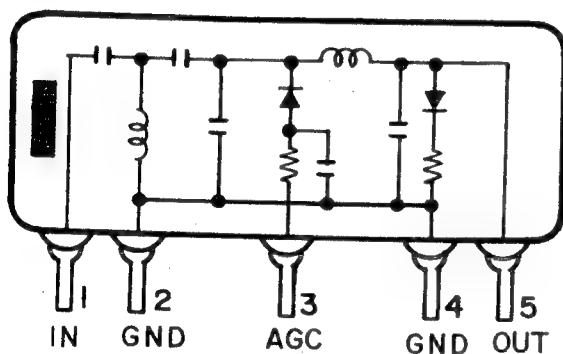
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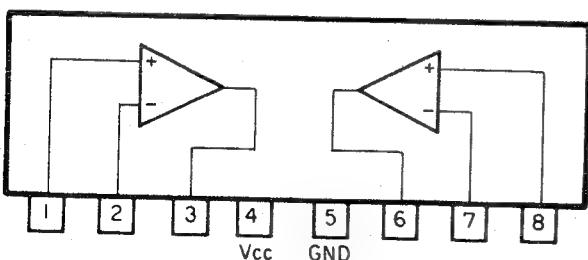
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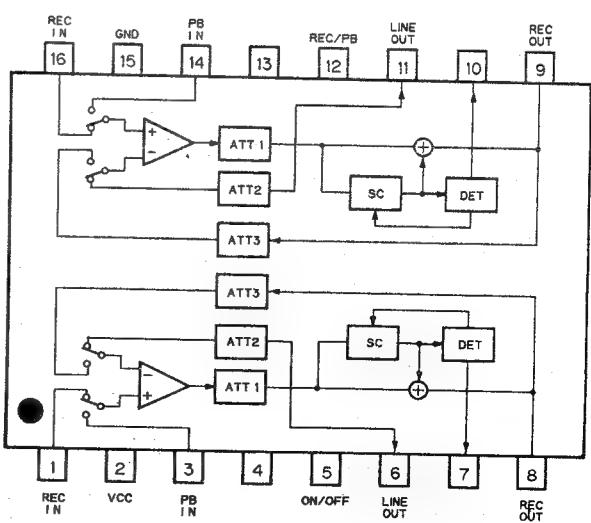
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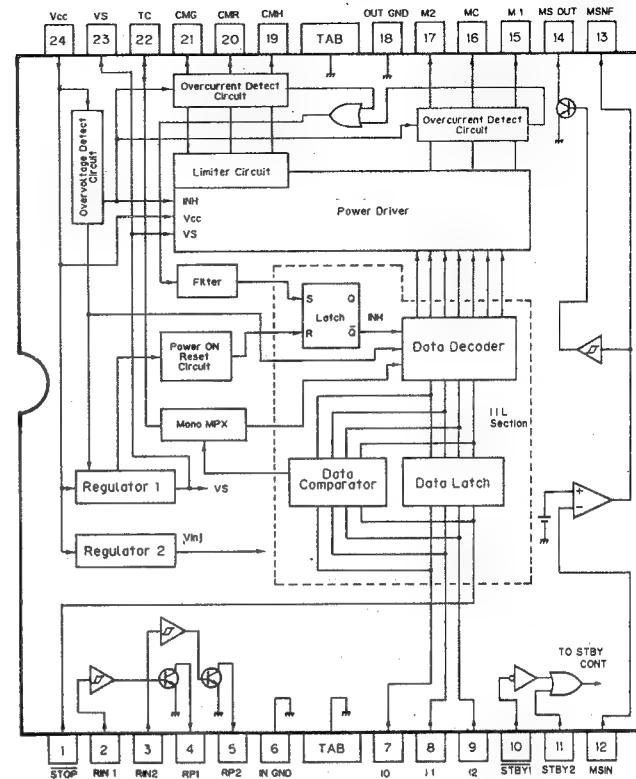
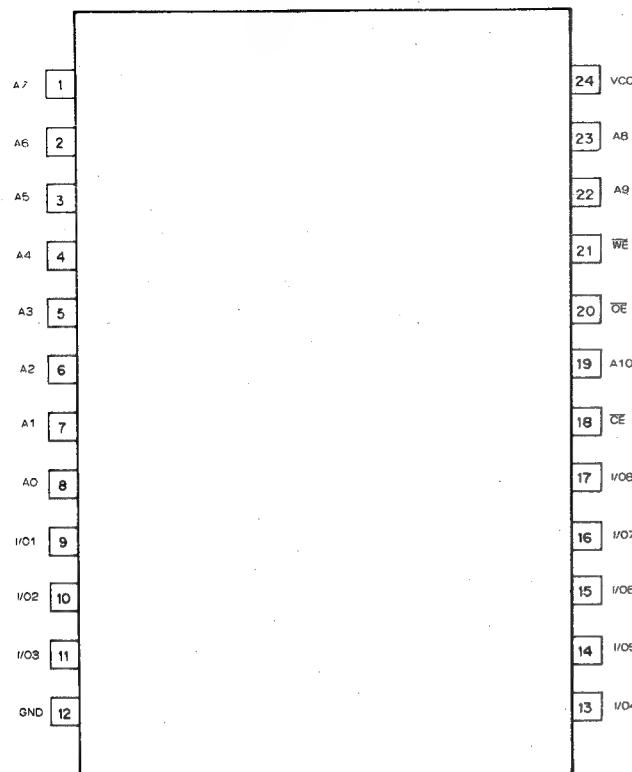


CXA1102P

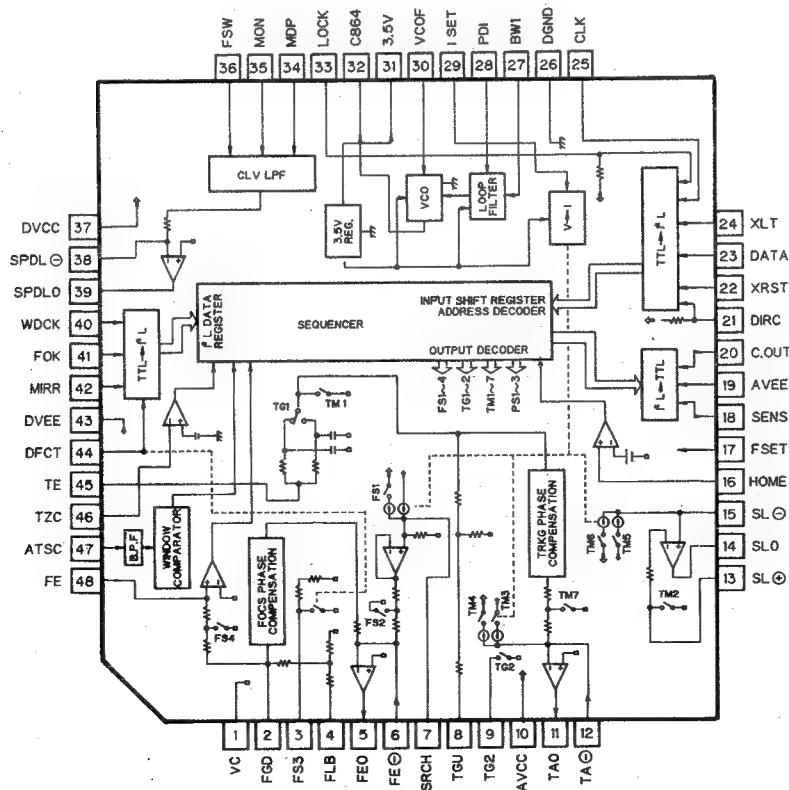


*CKX5816M-15L

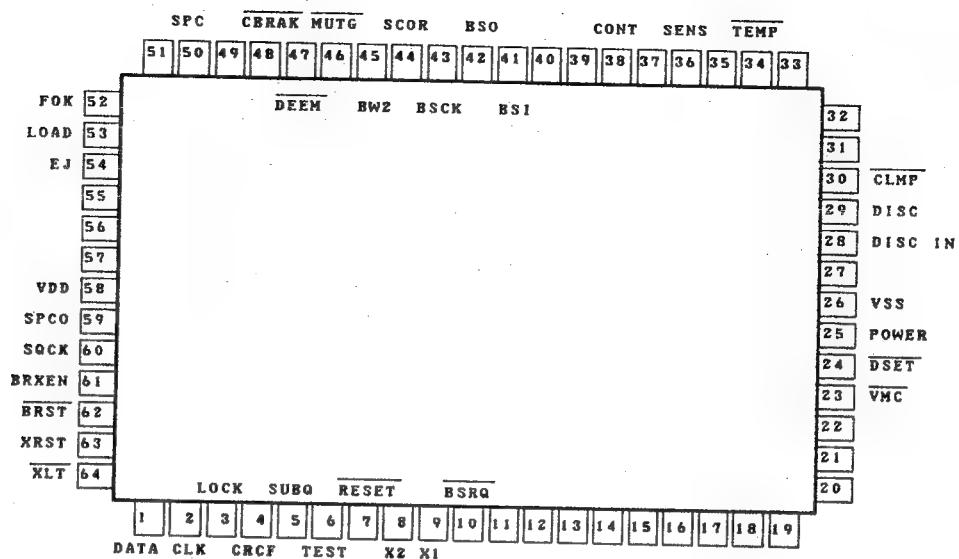
PA3022A



*CXA1082AQ



*PD4136B

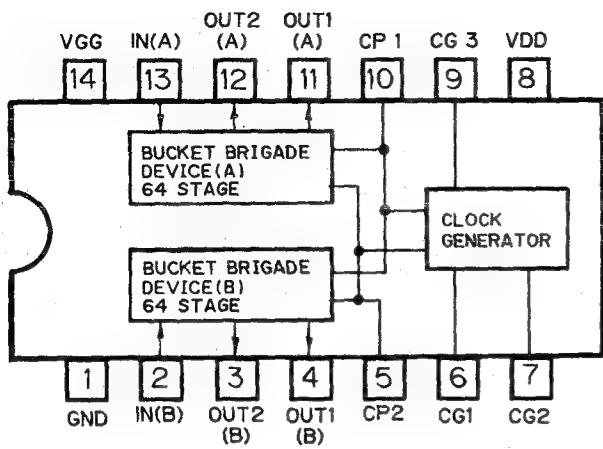


Pin Functions (PD4136B)

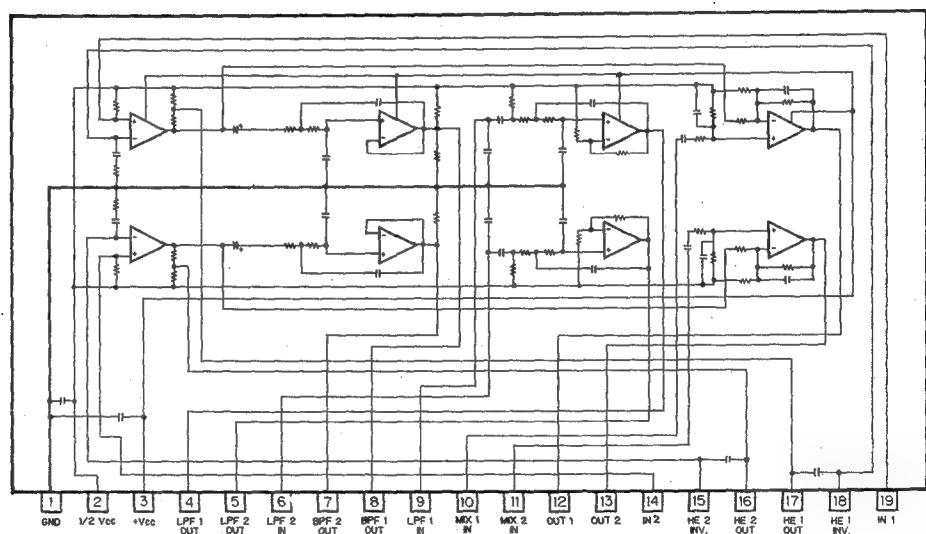
Pin No.	Pin Name	I/O	Function and Operation
1	DATA	CMOS IN	Serial data output
2	CLK	CMOS OUT	Serial data clock output
3	LOCK	CMOS IN	Spindle lock monitor "H"=Lock
4	CRCF	CMOS IN	CRC check result input "H"=CRC OK
5	SUBQ	CMOS IN	Sub-code data input
6	TEST	CMOS IN	Test input
7	RESET	CMOS IN	Reset input
8	X2	CMOS OUT	Oscillator output
9	X1	CMOS IN	Oscillator input
10	BSRQ	CMOS OUT	Service request line "L"=Request
23	VMC	CMOS OUT	Loading power supply control
24	DSET	CMOS OUT	Disc set LED control
25	POWER	CMOS OUT	Regulator ON/OFF control "H"=Regulator ON
26	VSS	—	Ground
28	DISC IN	CMOS IN	Door switch input "H"=Door open

Pin No.	Pin Name	I/O	Function and Operation				
2 9	DISC	CMOS IN	Disc sensor input	"H"	=Disc loaded		
3 0	CLMP	CMOS IN	Disc clamped input	"L"	=Disc clamped		
3 4	TEMP	INPUT	High temperature detector				
3 6	SENS	CMOS IN	CD LSI internal status monitor input				
3 8	CONT	CMOS OUT	PWM driver ON/OFF	"H"	=ON		
4 1	BSI	CMOS IN	Bus data input				
4 2	BSO	CMOS OUT	Bus data output				
4 3	BSCK	IN/OUT	Bus serial clock	CMOS Input/Output			
4 4	SCOR	CMOS IN	Sub-code synchronization input				
4 5	BW2	OUTPUT	Spindle motor output filter time constant selection output High resistivity N channel open drain				
4 6	MUTG	OUTPUT	Muting output	"L"	=Mute ON		
4 7	DEEM	OUTPUT	Emphasis selector output	"H"	=Emphasis ON High resistivity N channel open drain		
4 8	CBRAK	OUTPUT	PWM driver brake control	"L"	=Brake ON		
5 0	SPC	CMOS IN	Spindle motor rpm indicator	"L"	=Low speed		
5 2	FOK	CMOS IN	Indication that focus is closed and RF input is active				
5 3	LOAD	OUTPUT	Motor drive output High resistivity N channel open drain	LOAD	H	L	H
5 4	EJ			EJ	L	H	H
				Load	Eject	Stop	
5 8	VDD	—					
5 9	SPCO	CMOS OUT	Spindle motor rpm sensor circuit ON/OFF				
6 0	SQCK	CMOS OUT	Sub-code clock				
6 1	BRXEN	CMOS OUT	Bus reception enable output	"Hi-Z"	= Reception enable		
6 2	BRST	CMOS IN	Bus reset				
6 3	XRST	CMOS OUT	CD LSI reset output	"L"	=Reset		
6 4	XLT	CMOS OUT	Serial data latch output				

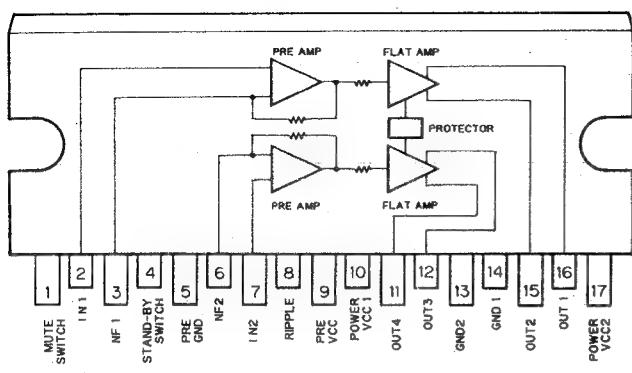
MN3003



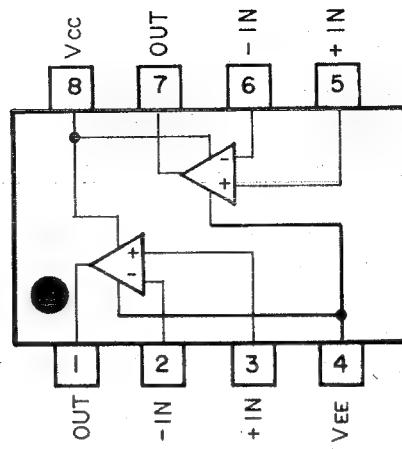
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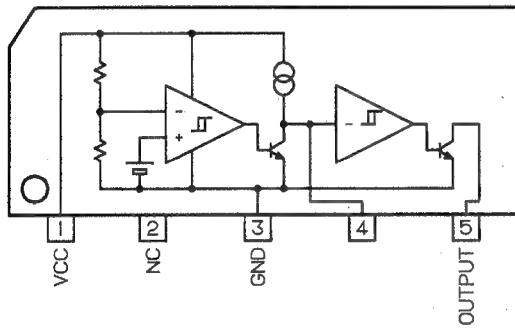
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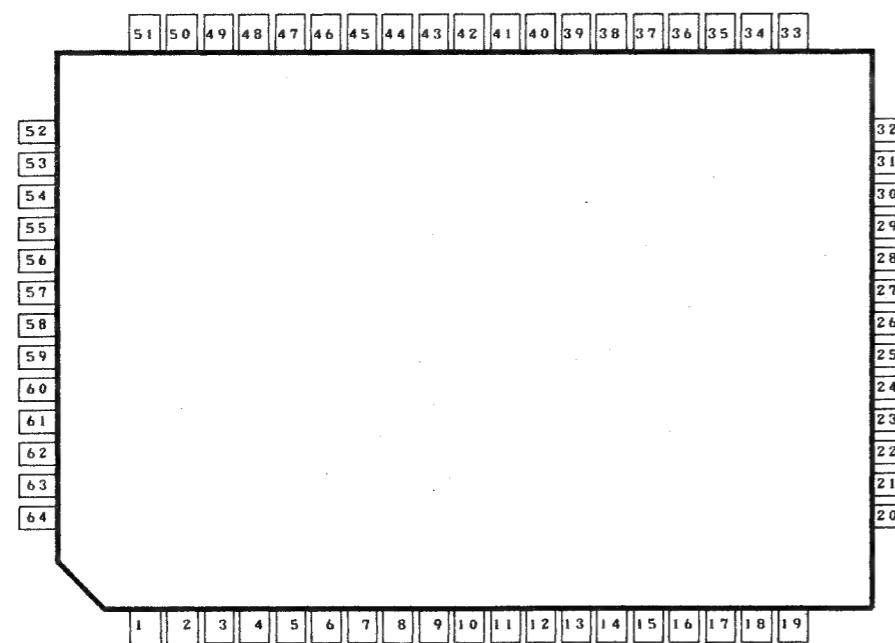
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NJM2068MD



M51953BL



*PD4155B



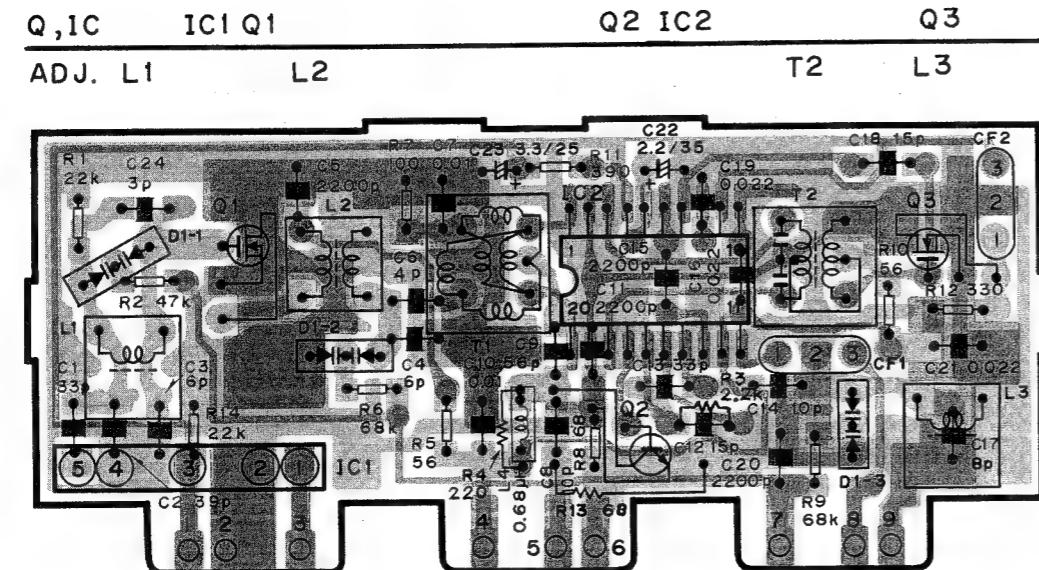
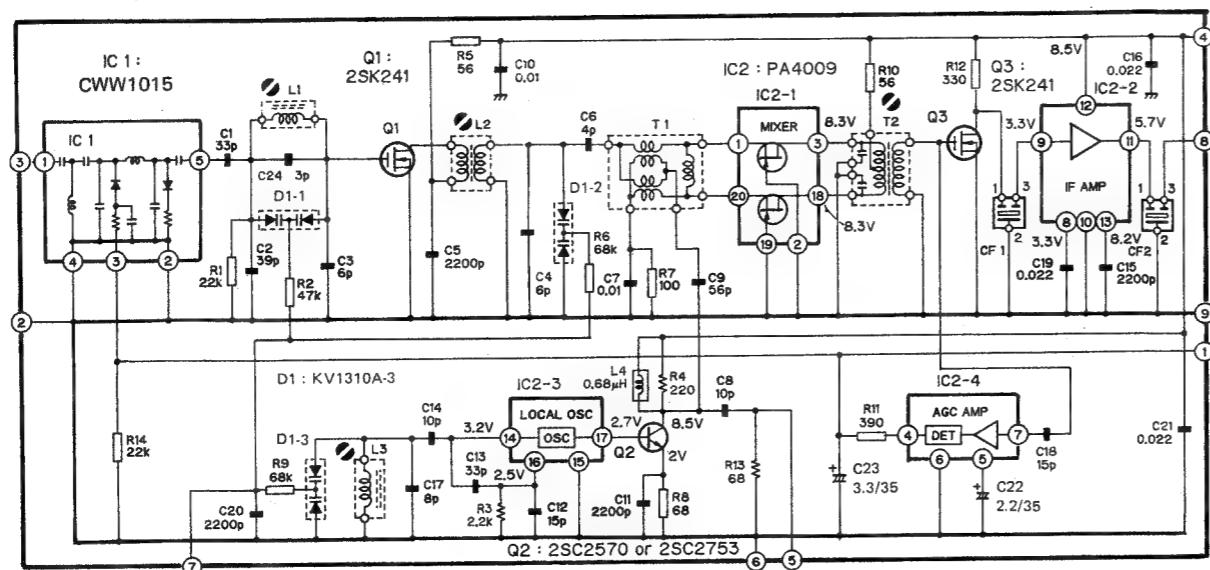
- Pin Functions (PD4155B)

Pin	Pin Name	I/O	Output Format	Standby	Function and Operation
1	PCE	O	C		PLL IC (LC7218) Chip enable
2	NR	O	C	L	Dolby NR switching
3	<u>LINH</u>	O	C		LCD driver (LC7582) inhibit output
4	LCK	O	C		LCD driver (LC7582) clock line
5	LDT	O	C		LCD driver (LC7582) data output
6	LCE	O	C		LCD driver (LC7582) chip enable
7	<u>RESET</u>	I			Reset signal input pin
8	X2				Clock generator pin
9	X1				Clock generator pin
10	<u>PLAY</u>	O	C	L	MS filter switching
11	CM	O	C	L	Capstan motor control
12	<u>NES</u>	I			Forward side reel unit rotation pulse pin.
13	<u>RES</u>	I			Reverse side reel unit rotation pulse pin.
14	STBY1	O		L	PA3022 standby output pin.
15	<u>I₂</u>	O		L	Mechanism control data output pin. Outputs control data for the mechanism driver (PA3022)
16	<u>I₁</u>	O		L	
17	<u>I₀</u>	O		L	
18	MD3	I			Mechanism switch input pin.
19	MD2	I			
20	MD1	I			
21	MDO	I			

Pin	Pin Name	I/O	Output Format	Standby	Function and Operation
22	MST2	O		L	Mechanism switch strobe output pin.
23	MST1	O		L	
24	MST0	O		L	
25	METAL	O		L	Equalizer switch output pin.
26	VSS				GND
27	BSENS	I			Backup voltage detection input pin.
28	ASENS	I			ACC voltage detection input pin.
29	MS	I			Music signal input pin.
30	PWSW	I			TUNER power on/off input pin.
31–33	NC				
34	SDLEV	I			TUNER SD level detection input.
35	LOCIN	I			During AM operation, detects illumination voltage and switches LOC/DX.
36	PCLCNT	I			Clock output authorization input
37	MUTE		C	H	Mute output pin.
38	PCL/TUNANT	O	C	H/L	Clock output/TUNER antenna output pin.
39	PEE	O	C		Key touch beep output pin
40	SYSPW	O	C	L	Power amplifier ON output pin.
41	BSI	I			Bus data input pin
42	BSO	O			Bus data output pin
43	BSCK	I/O			Communications clock input/output pin.
44	BSRQ	I			Data communications serial poll request.
45	TAPPW	O	NM	H (Hz)	DECK power supply control
46	TUNPW	O	NM	H (Hz)	TUNER power supply control
47	KST1	O	NM	Hz	Key matrix strobe output.
48	KST0	O	NM	Hz	Key matrix strobe output.
49–52	KST5–KST2	O	NM	Hz	Key matrix strobe output.
53–56	KD3–KDO	I			Key matrix return input.
57	NC				
58	VDD				
59	DISB	O	C	H/L	AUX operation disable
60	BRST	O	C	L	Bus reset
61	AUX IN	I			AUX operation input
62	PDI	I			LC7218: Data input
63	PCK	O	C		LC7218: Clock
64	PDT	O	C		LC7218: Data output

Output format	Meaning
C	C-MOS
NM	Neutral resistivity N channel open drain

● FM FRONT END (CWB1005)



● Circuit Diagram Symbols

Symbol	Function	Symbol	Function
A	1/4 division detector output used in detection of RF and focus signal	FEO2	Focus 2 (IC655 pin no.1)
ACC	14.4V	FLOAT	Carriage mechanism play position detector signal
AGND	Analog ground	HOME	Home position detector signal (pick-up at home position when "L")
ASY	Asymmetry	IN1	Motor control signal 1
ATSC	Anti-shock (carriage motor control during playback)	IN2	Motor control signal 2
B	1/4 division detector output used in detection of RF and focus signal	IN3	Motor control signal 3
BATT	14.4V (Constant power supply)	ISETY	ISET resistance pin (IC601 pin no.31)
BDATA	Bus data signal	LAMP	Photo-interrupter drive signal
BRST	Bus reset signal	LD	Laser diode
BRXEN	Bus line busy signal	LOAD	Disc loading power supply ON/OFF signal
BSCK	Bus synchronizing shift clock	MON	Motor ON (spindle forward or reverse when "H")
BSRQ	Bus service request line	MD	Monitor diode
BYPS1	Bypass 1 (non-drive enabled by connecting to ground during PWM IC651 operation)	MUTG	Mute signal (muting ON when "L")
BYPS2	Bypass 2 (non-drive enabled by connecting to ground during PWM IC652 operation)	POWER	Power supply control signal
C	1/4 division detector output used in detection of RF and focus signal	REG5	+5V
CBRAKE	PWM driver brake control signal (brake on when "L")	SLO	Carriage output signal (IC601 pin no.14)
CLAMP	Disc set detect signal	SM+	Spindle motor drive signals (PWM OUT)
CM+	Carriage motor drive signal (PWM OUT)	SM-	
CM-		SPC	Spindle motor rpm detector signal (low speed when "L", IC656 pin nos.1 & 7)
CONT	PWM driver ON/OFF signal (ON when "H")	SPCO	Spindle brake (spindle brake when "H", IC751 pin no. 59)
D	1/4 division detector output used in detection of RF and focus signal	SPDLO	Spindle motor error signal (IC601 pin no.39)
DEEM	Emphasis selector switch (emphasis ON when "H")	SPTAO	Tracking side path signal output
DFCT	DEFECT signal ("H" when defect)	SMIN	Spindle motor drive PWM input signal
DGND	Digital ground	STBY	Standby position detector signal
DISC	Disc presence detector signal	TA+	Tracking actuator drive signals (PWM OUT)
E	Tracking signal start detector	TA-	
EFM	8-14 modulation	TAIN	Tracking actuator drive PWM input signal
EJ	Eject key	TEND	Mechanism clamped switching line
END	Carriage mechanism END position detector signal	TGU	Tracking side path input
F	Tracking signal end detector	TIG	Switch ground
FA+	Focus actuator drive signal (PWM OUT)	TOG	Switch ground
FA-		TZC	T.E zero-cross signal
FAIN	Focus drive PWM input signal	VC	Signal reference voltage (2.5V)
FEO	Focus signal output (IC601, CXA1082AQ pin no.5)	VREF	Signal reference voltage buffer output (2.5V)

7. CONNECTION DIAGRAM (1)

2

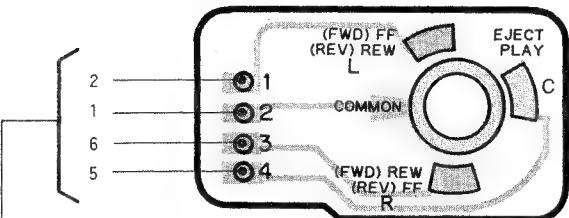
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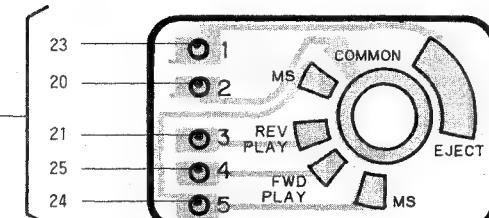
6

A

SENSE P.C. BOARD (B)

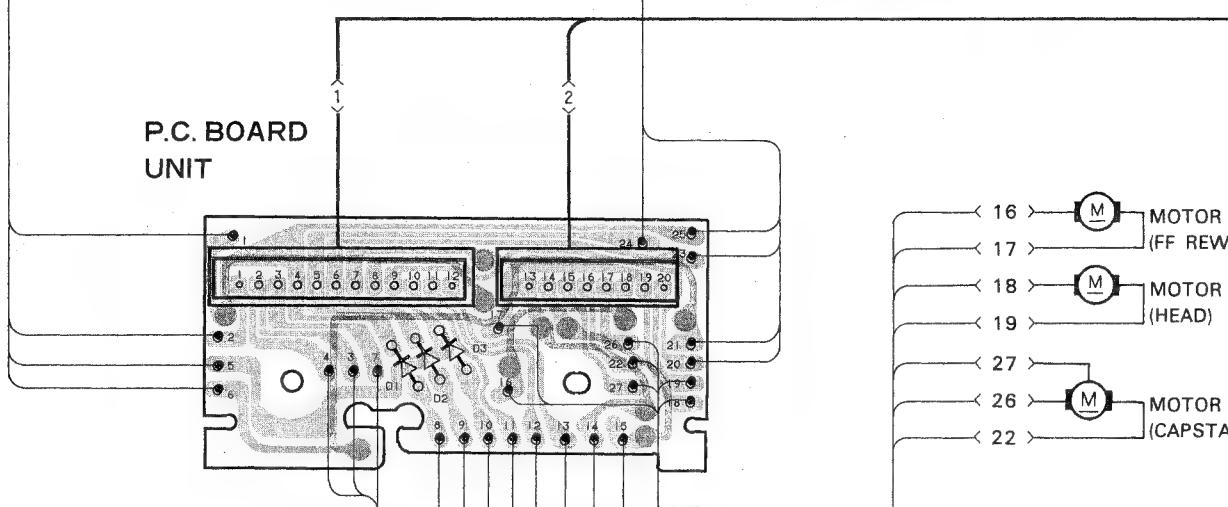


SENSE P.C. BOARD (A)



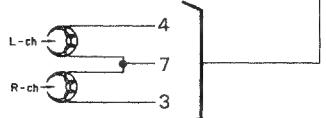
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P.C. BOARD UNIT

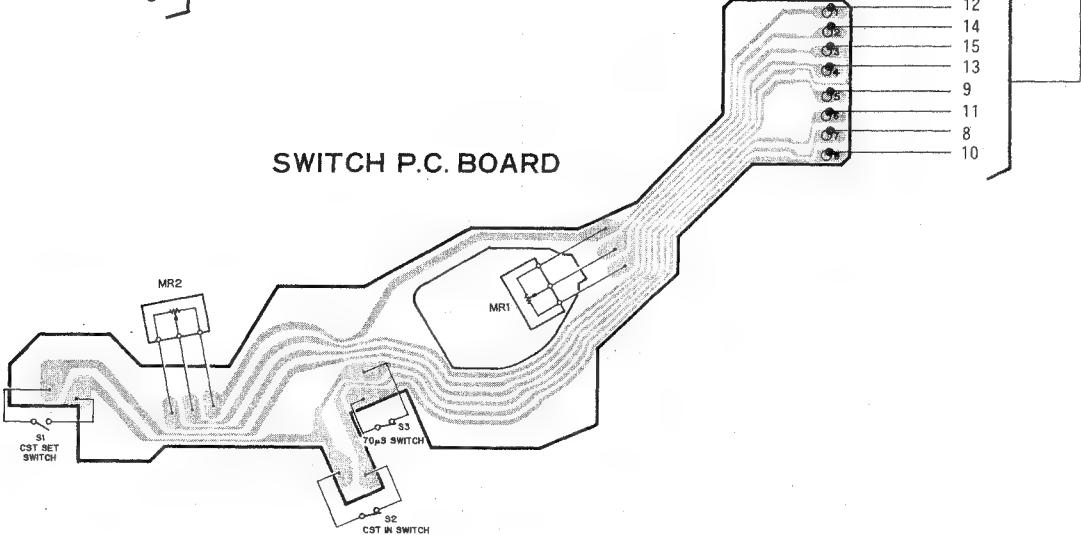


C

HD1 : HEAD UNIT



SWITCH P.C. BOARD



D

50

1

2

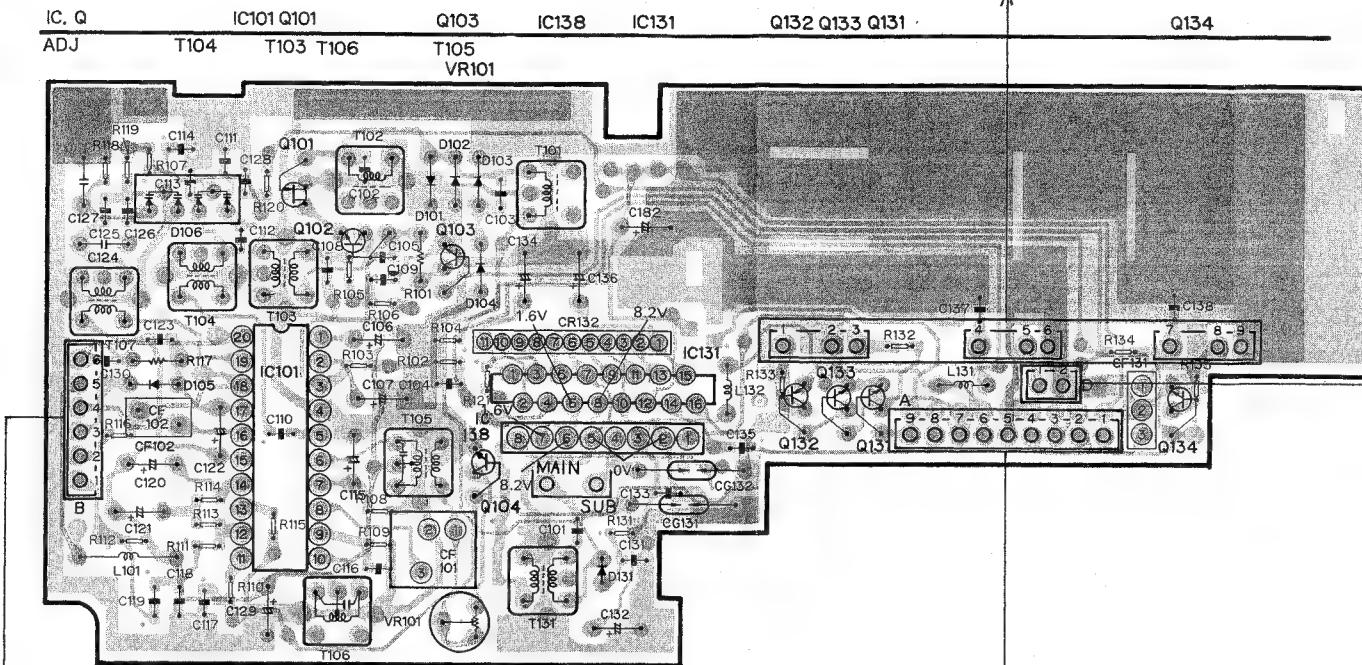
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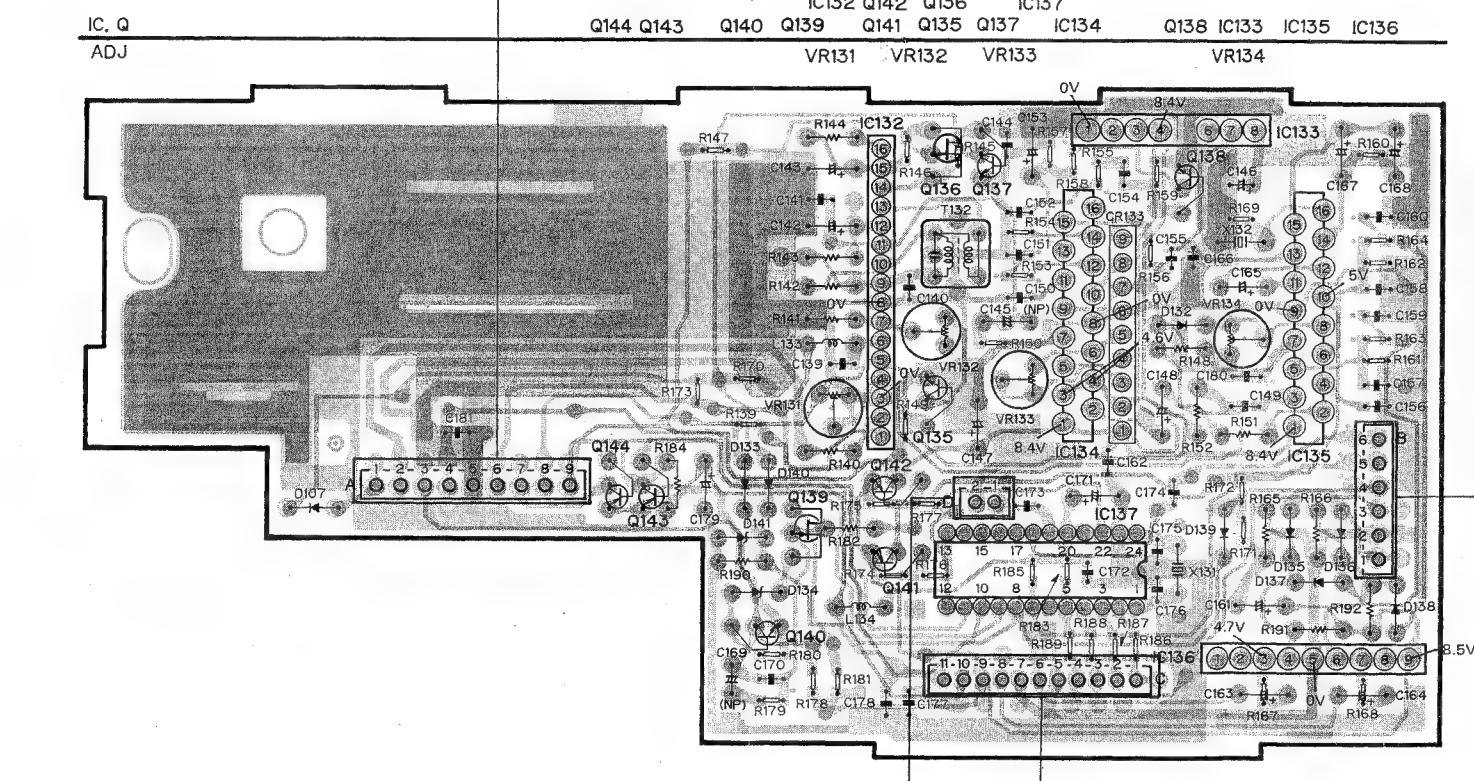
FE · AM P.C. BOARD



FM FRONT END (Page 48)

Q134

IF · MPX P.C. BOARD



1

2

3

4

5

AUDIO POWER UNIT

CD UNIT
TO CN352

CD UNIT
TO CN353

CONNECTOR P.C. BOARD

A

CONTROL P.C. BOARD
TO J

KEY BOARD UNIT

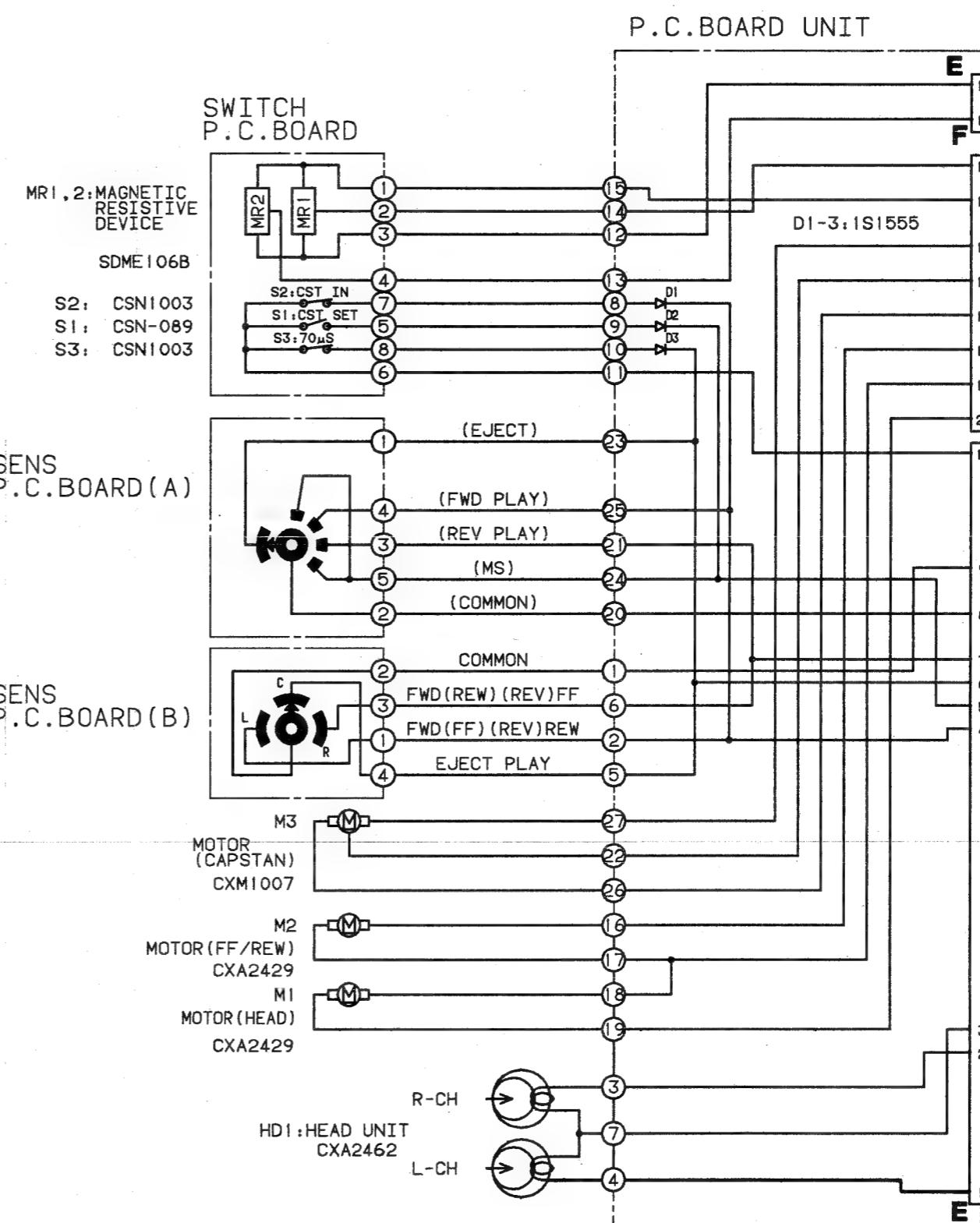
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IC901

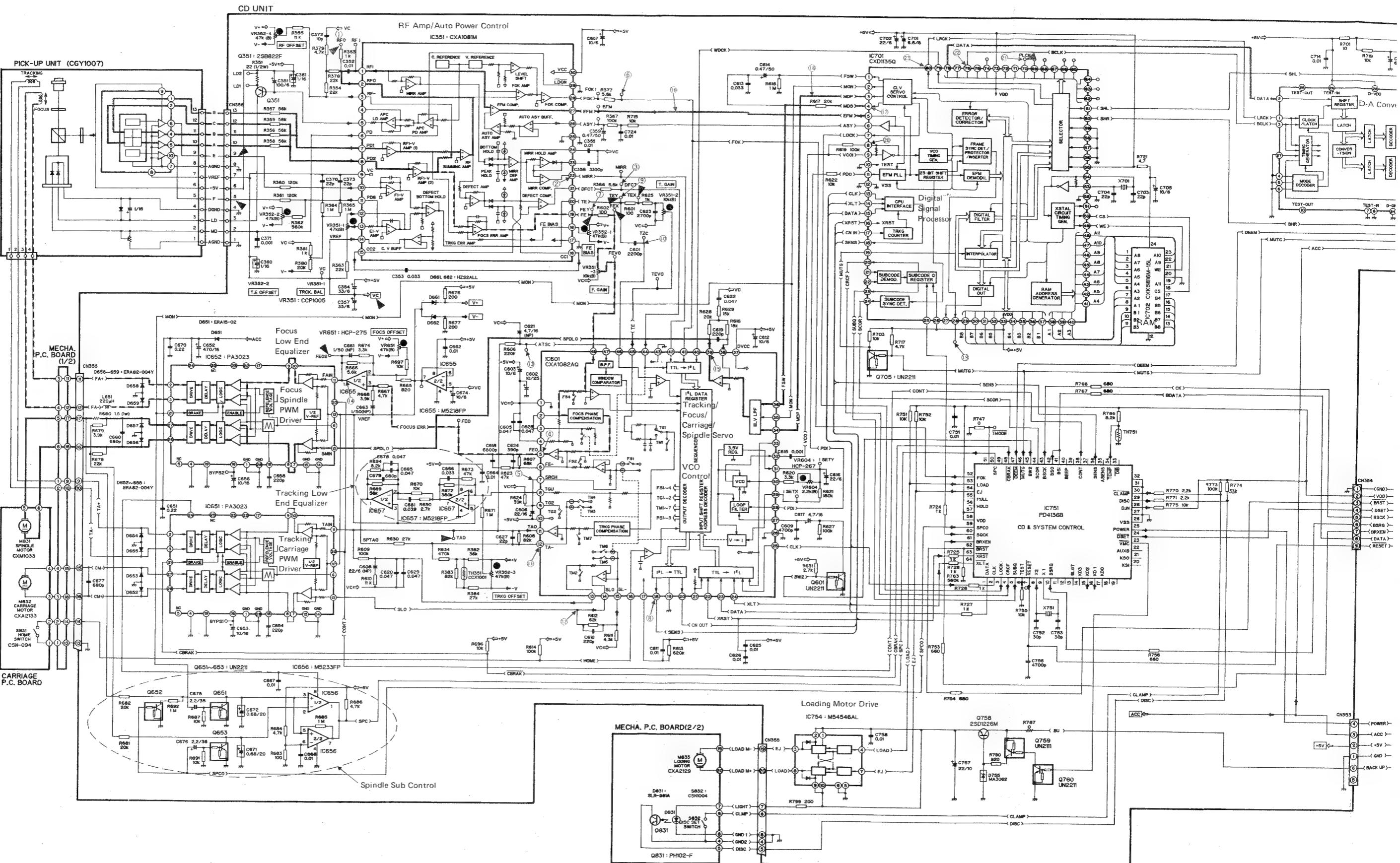
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C

CONTROL P.C. BOARD
TO M

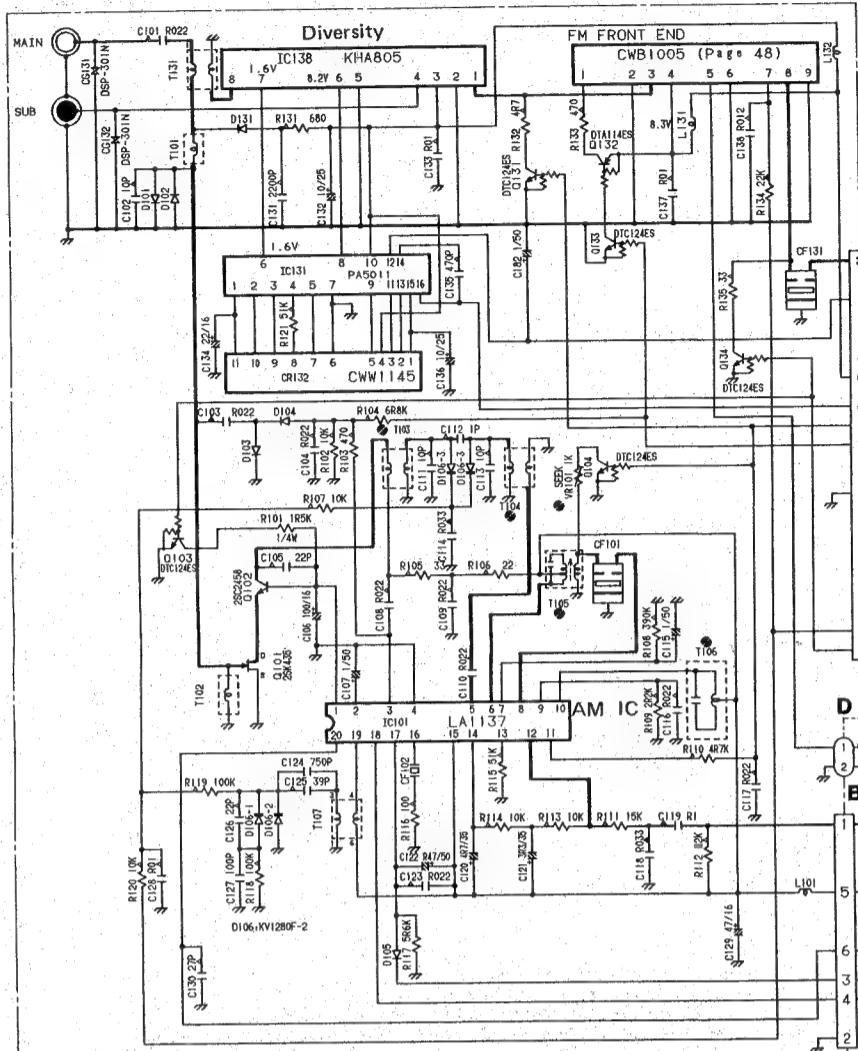


10. SCHEMATIC CIRCUIT DIAGRAM (2)



8. SCHEMATIC CIRCUIT DIAGRAM (1)

FE·AM P.C. BOARD

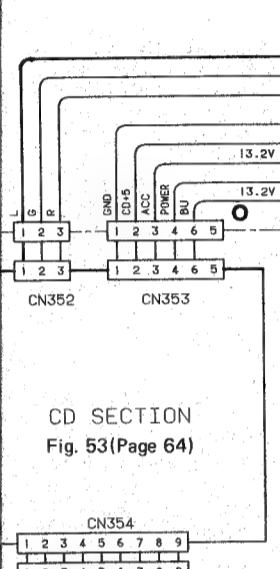
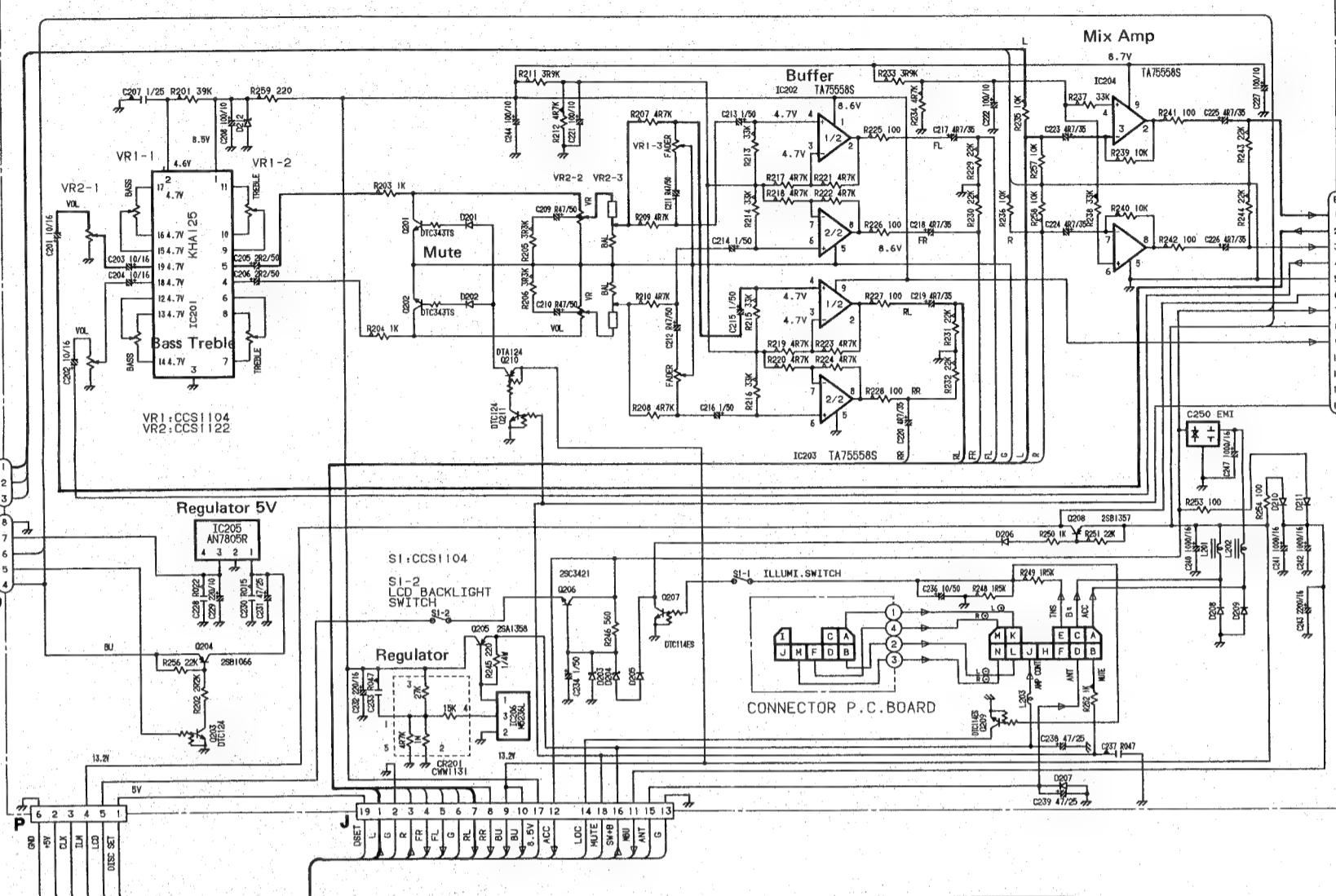


er Unit
sists of
Connector P.C. Board
FE-AM P.C. Board
IF-MPX P.C. Board

control Unit
sists of
Control P.C. Board
Dolby NR P.C. Board
P.C. Board

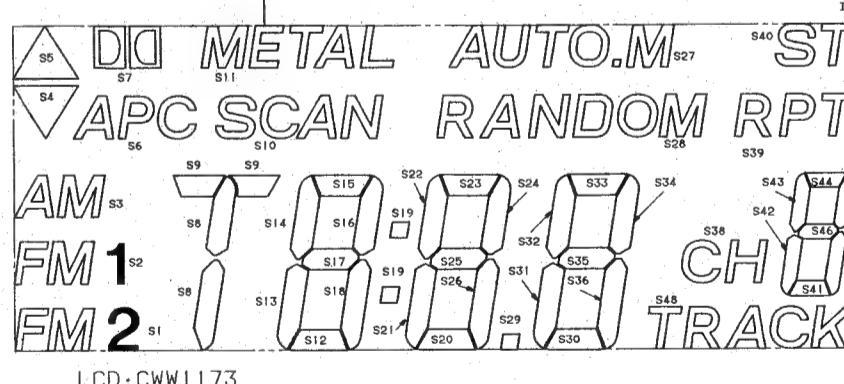
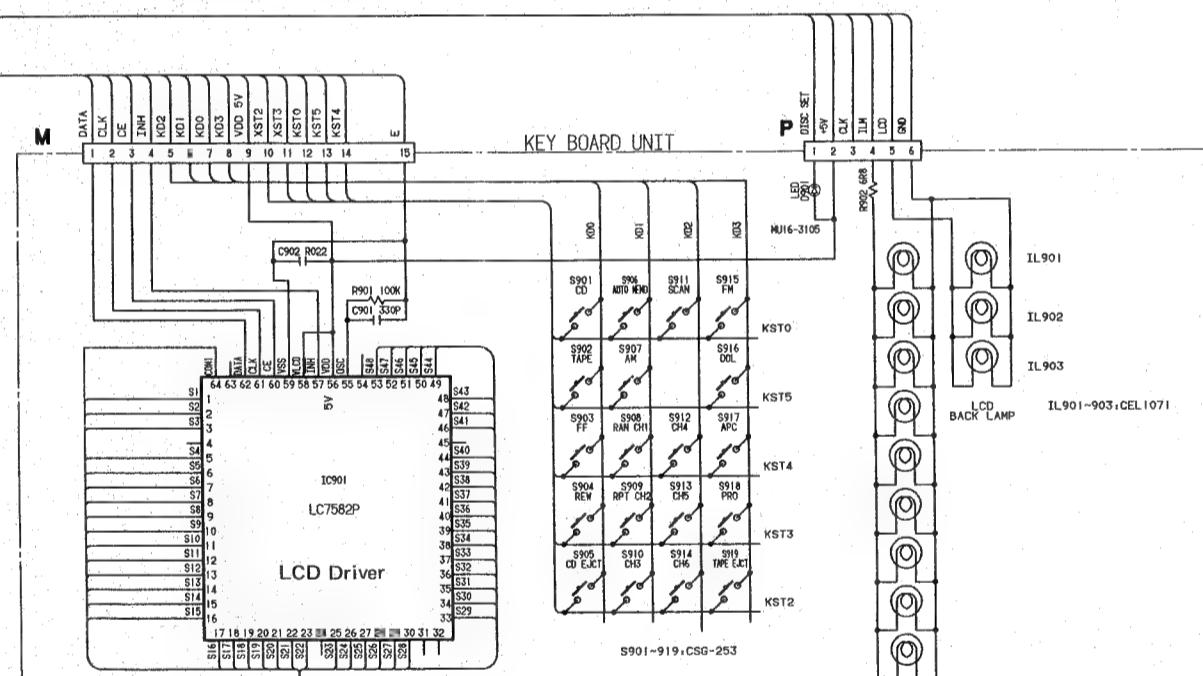
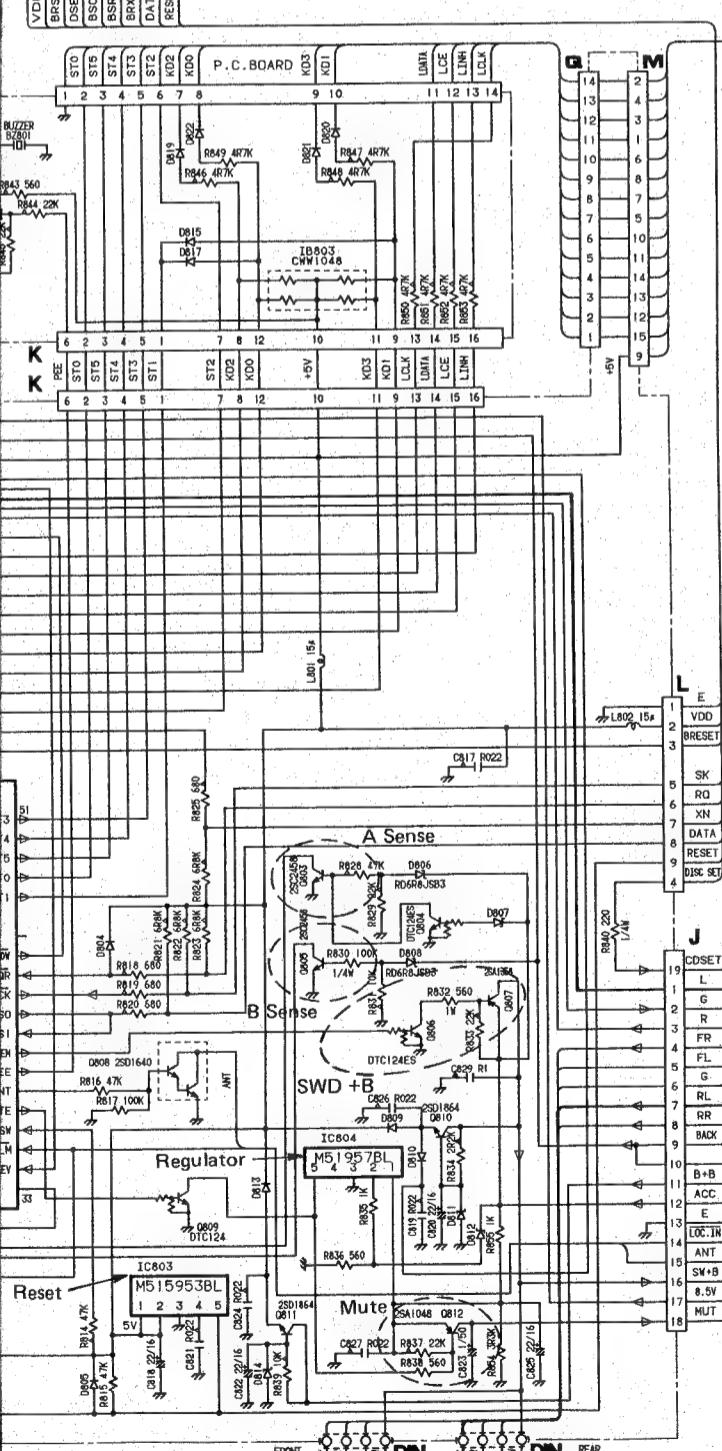
AUDIO POWER UNIT

Connection is viewed from
the direction of the arrow.

CD SECTION
Fig. 53(Page 64)

TO AE PROCESSING UNIT

1 LOUT
2 LIN
3 ROUT
4 RIN
5 SIG G
6 ILL
7 ACC
8 BU
9 8.5V
10 N.C.
11 N.C.
12 B/OUT
13 MUTE



TO AE PROCESSING UNIT

ISS133	D101, 102, 103, 104, 105, 107 D132, 133, 135, 136 D137, 138, 139, 140	RD9R1JSB2 RD6R8JSB3 RD22JSB1 D807
ISS133	D801, 802, 803, 804, 805 D809, 810, 813, 815, 819 D820, 821, 822, 871, 205 D201, 202, 206	RD6R2JSB2 D811, 814 RD3R0ESB2 D134 RD5R1JSB2 D141 ERA15-02VH D207, 210, 211 SM-3-02LFDA D208, 209
ISS133	D212	

TO AE PROCESSING UNIT

9. CONNECTION DIAGRAM (2)

1

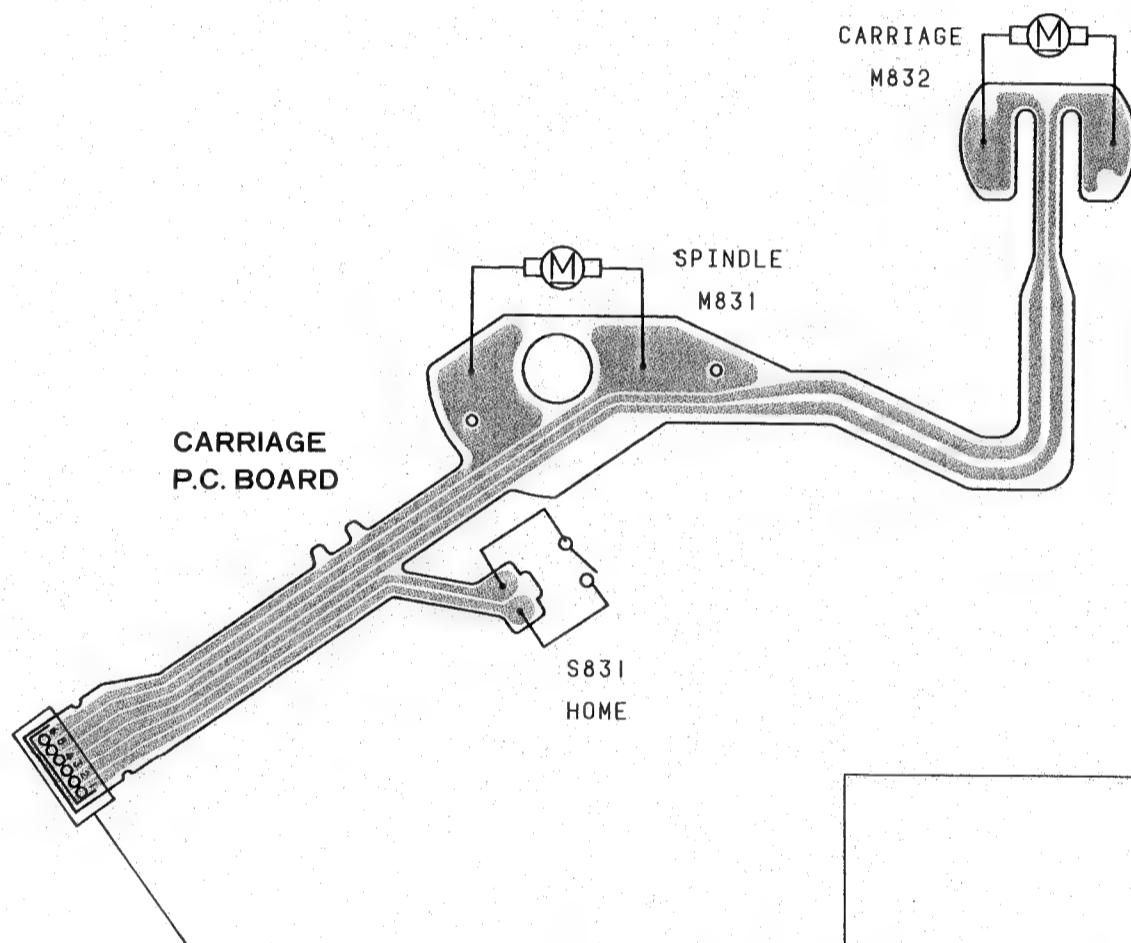
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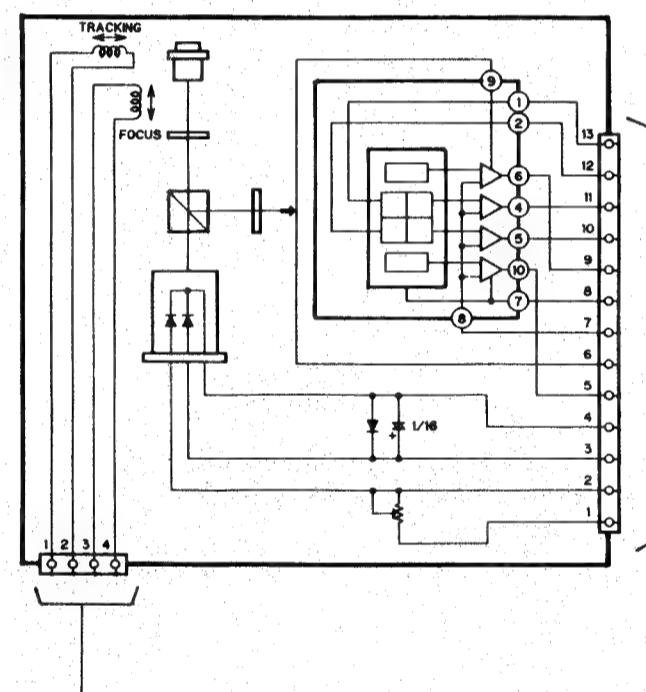
4

5

A



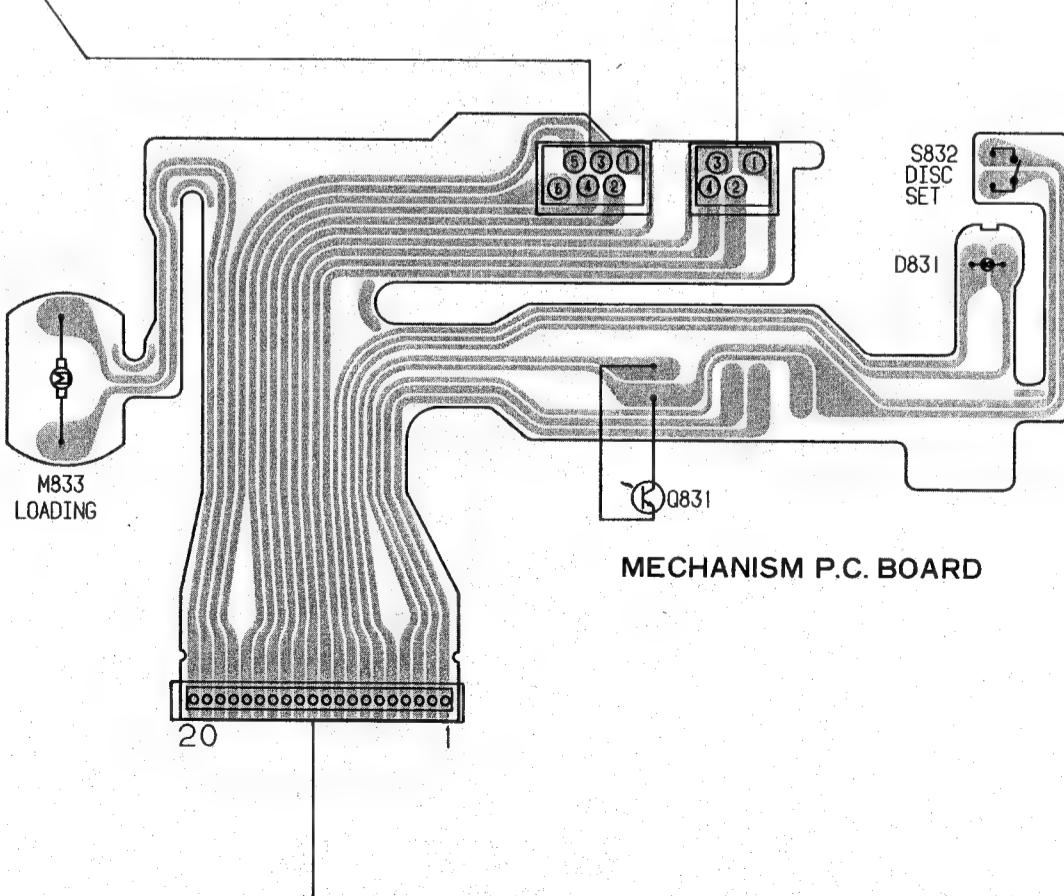
PICK-UP UNIT



VR352-4
VR352-3
VR352-2
VR352-1

VR351-3
VR351-2
VR351-1

C



D

1

2

3

4

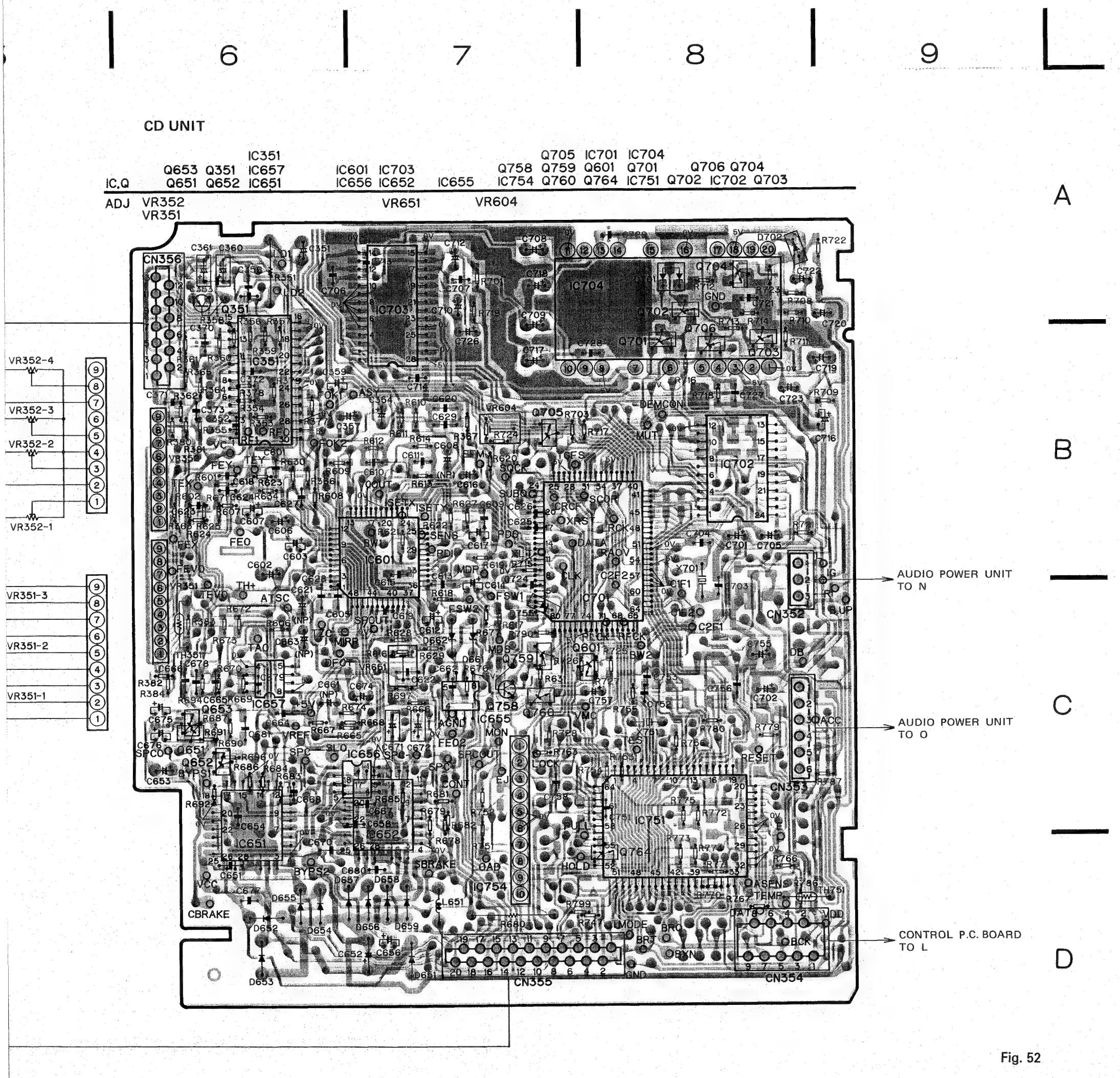
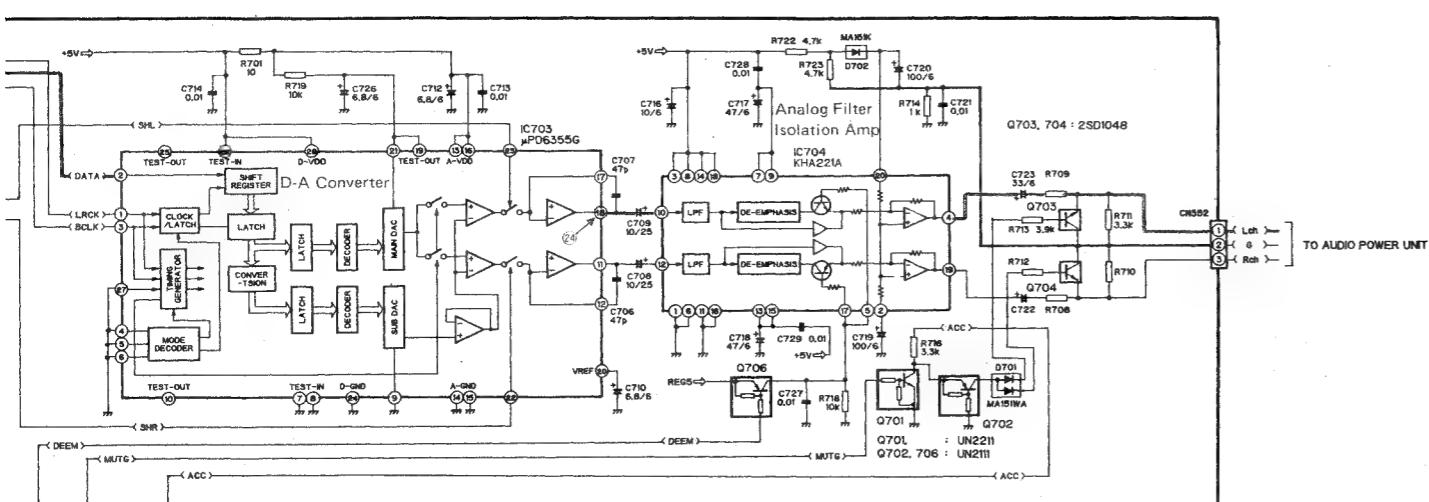
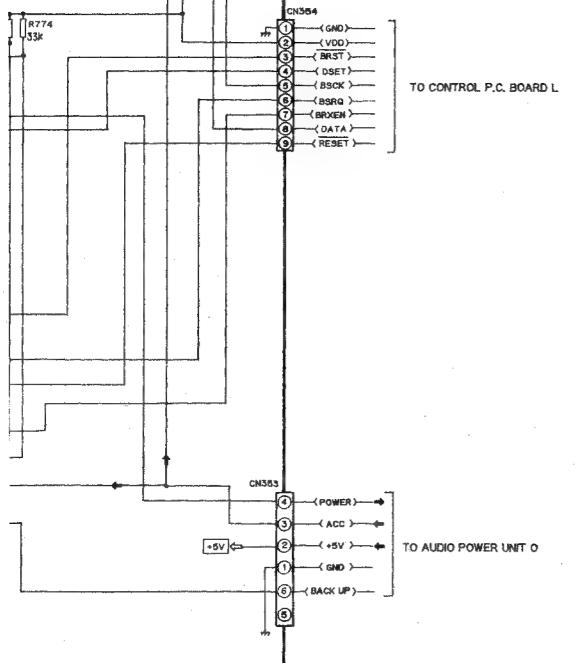


Fig. 52



Signal Route
 - - - Focus Servo Line
 - - - Tracking Servo Line
 - - - Cartridge Control Line
 - - - Spindle Servo Line

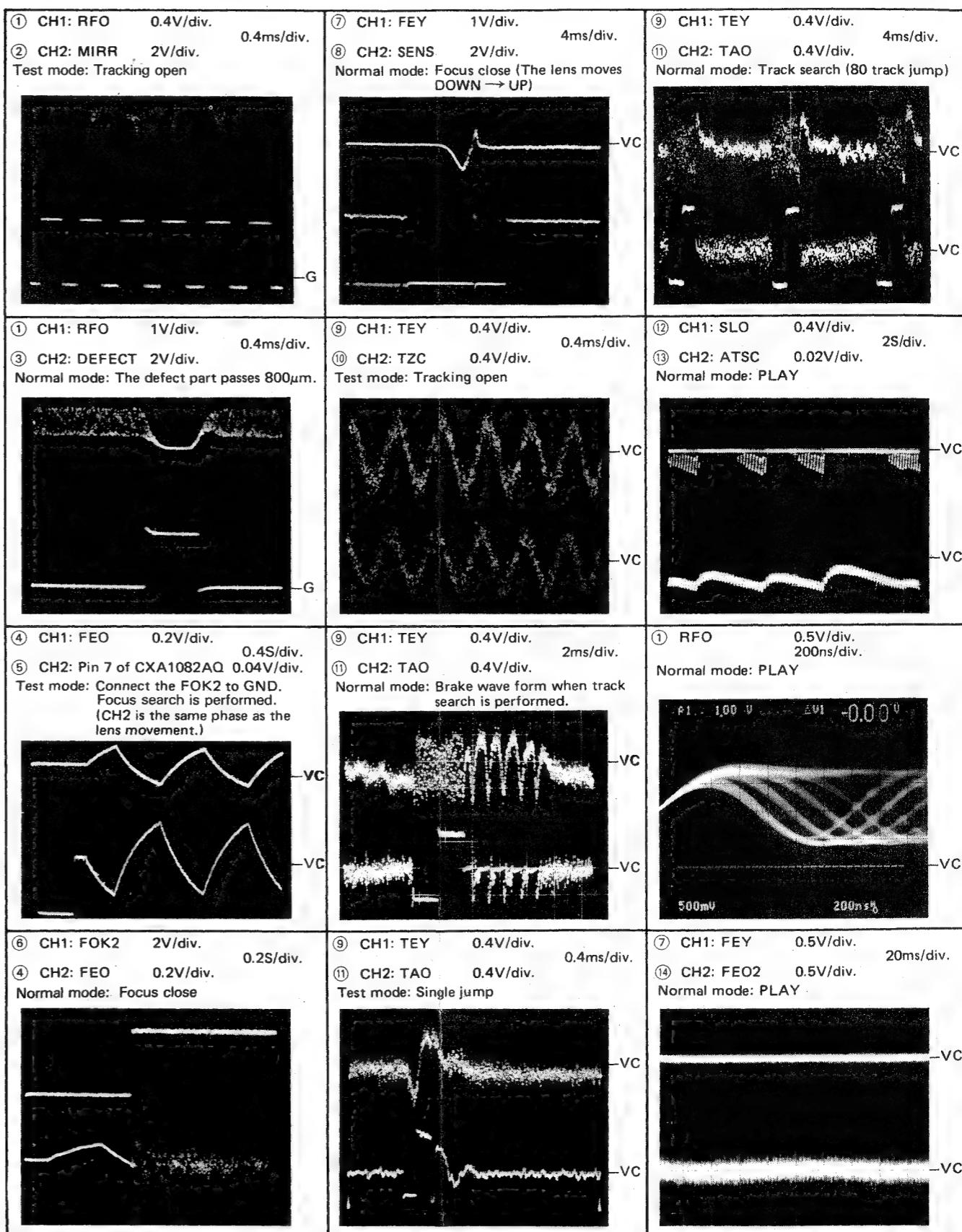


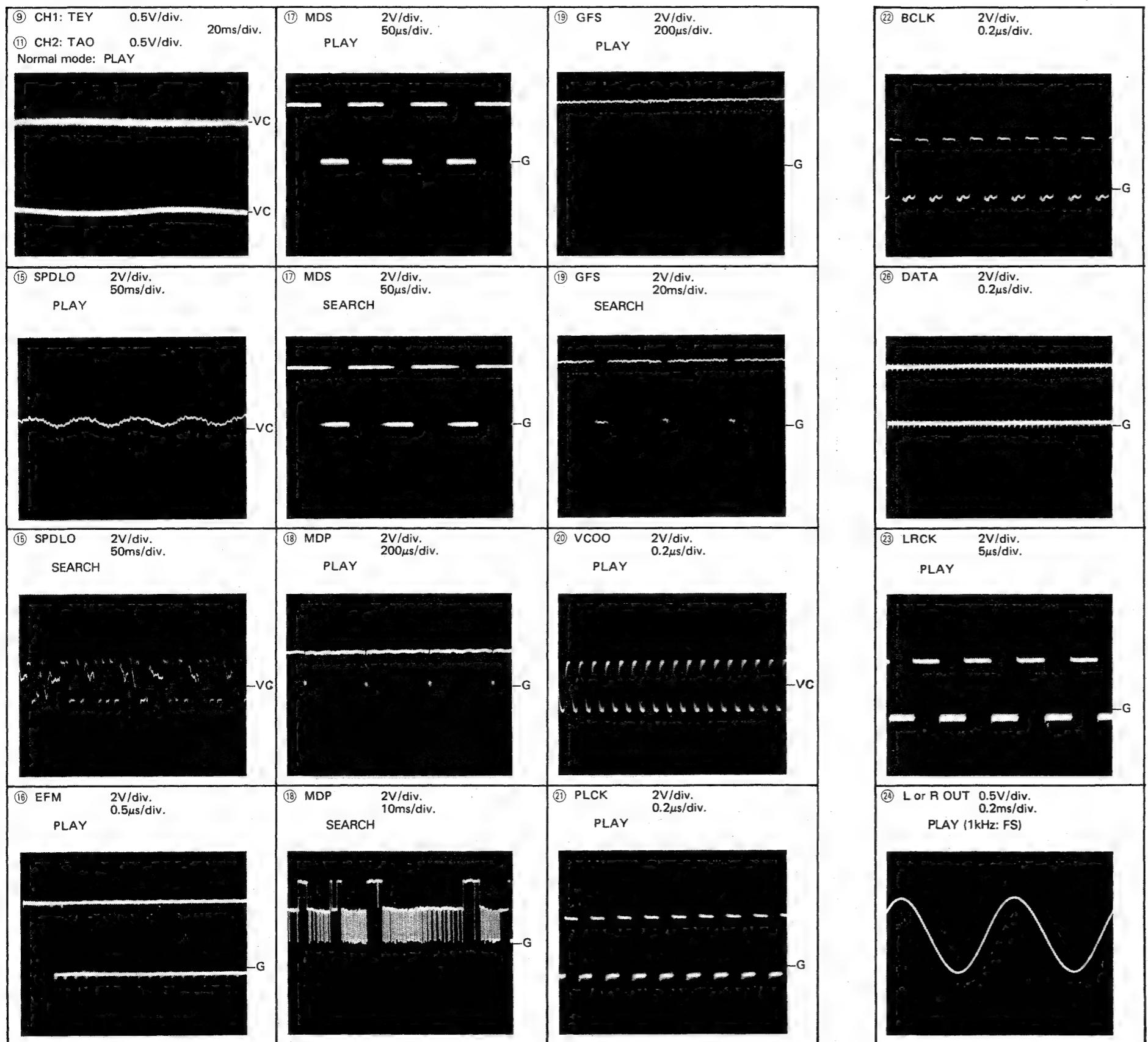
NOTE :
 - - - Indicates a chip resistor.
 - - - Indicates a chip capacitor.
 - - - Indicates a chip transistor.
 - - - Indicates a chip diode.
 SWITCHES
 S831 : HOME SWITCH ON — OFF
 S832 : DISC SET SWITCH ON — OFF
 The underlined indicates the switch position.

Fig. 53

● Wave Forms

Note: 1. The encircled numbers denote measuring points in the circuit diagram.
 2. Reference voltage.
 G: GND VC: Pin 14 of CXA1081M (2.5V)





A

B

C

AM FM C
CD COM

D

AM FM C
CD COM

11. SCHEMATIC CIRCUIT DIAGRAM (3)

- AE PROCESSING UNIT
- DEH-K4041ZM, XF-4041ZM-91

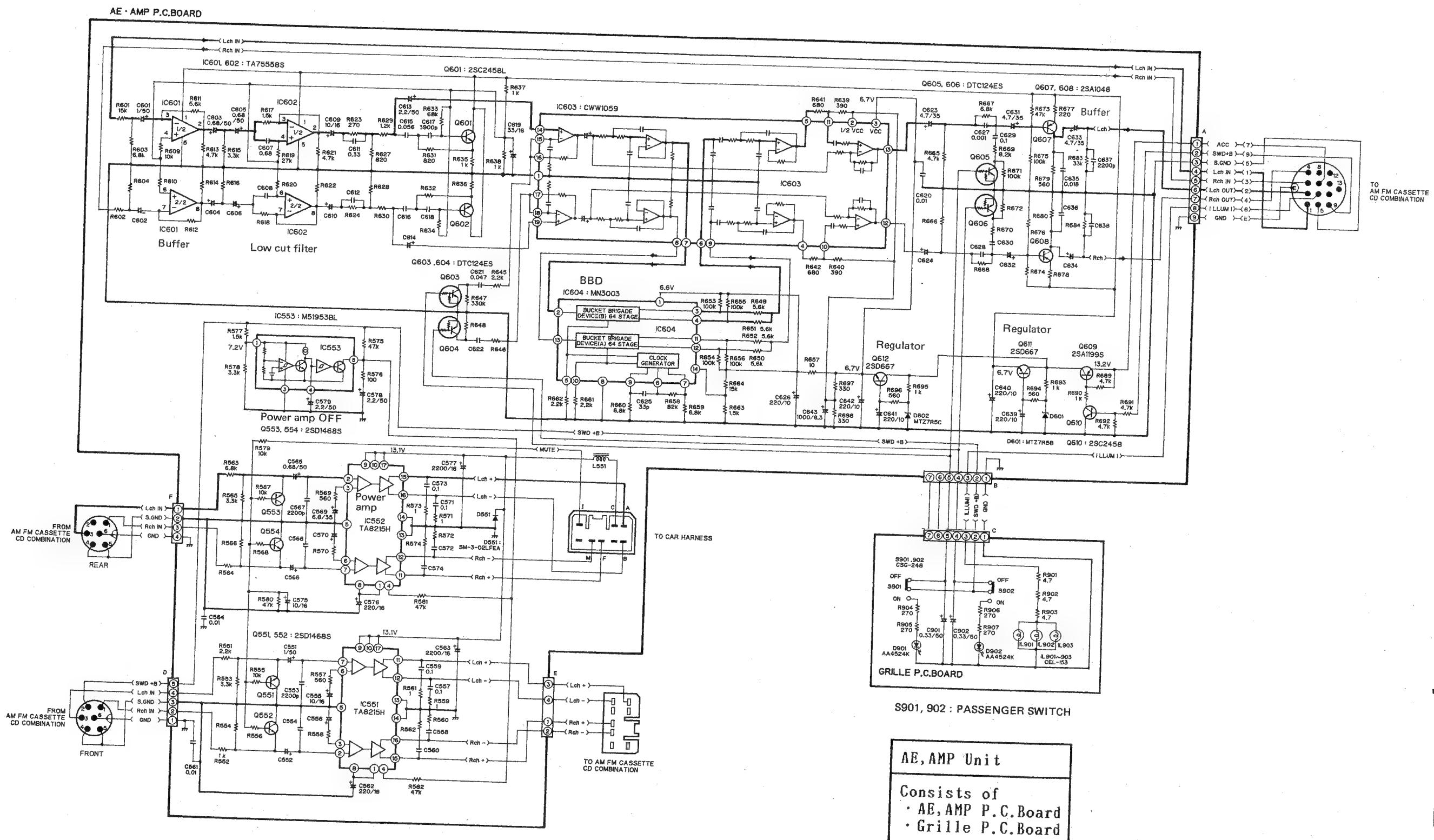


Fig. 54

12. CONNECTION DIAGRAM (3)

- AE PROCESSING UNIT
- DEH-K4041ZM, XF-4041ZM-91

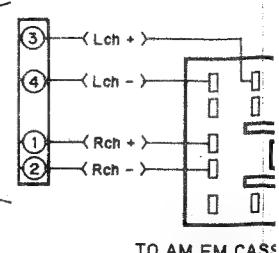
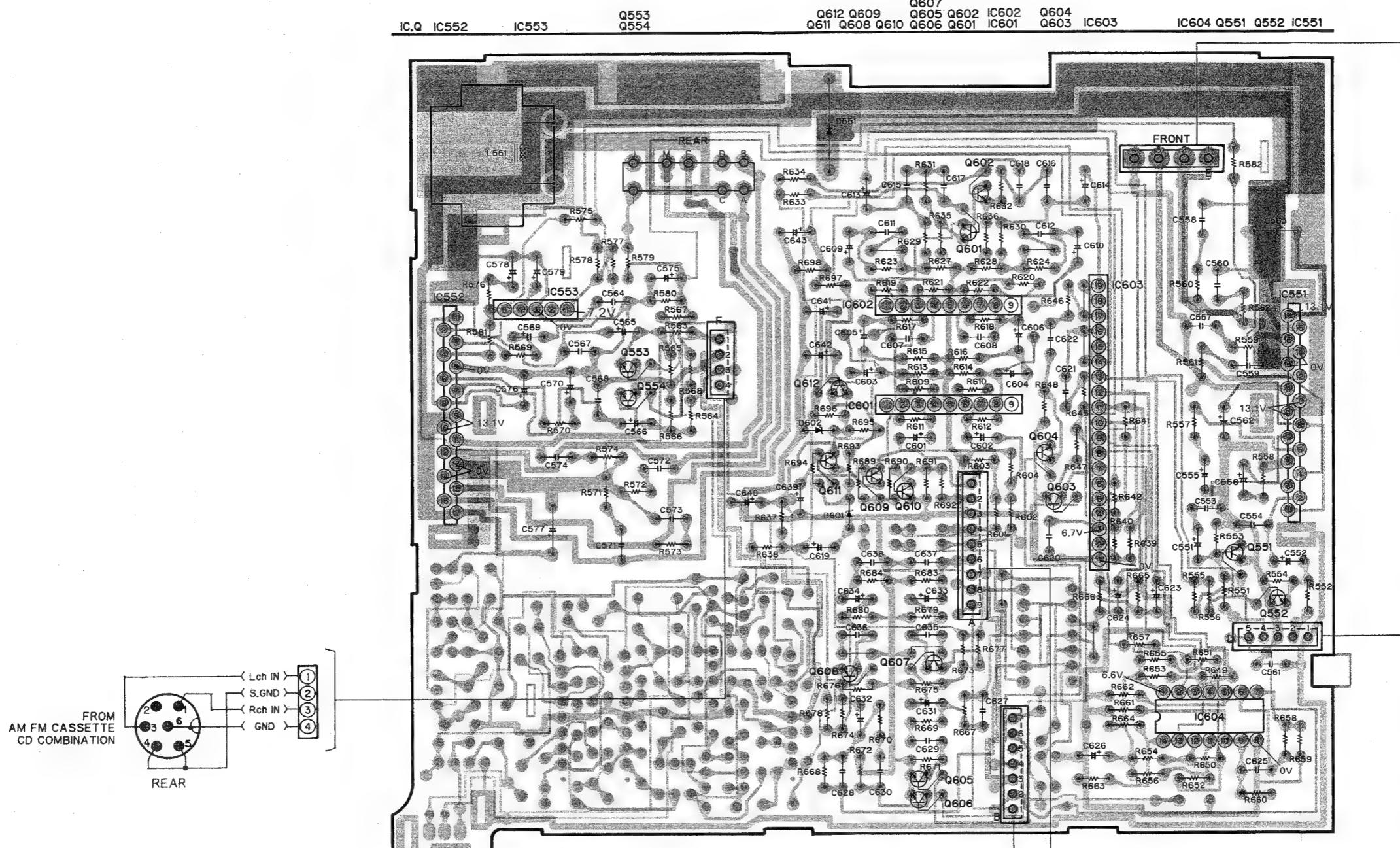
AE · AMP P.C. BOARD

A

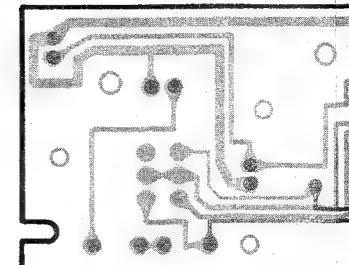
B

C

D



GRILLE P.C. BOA



4

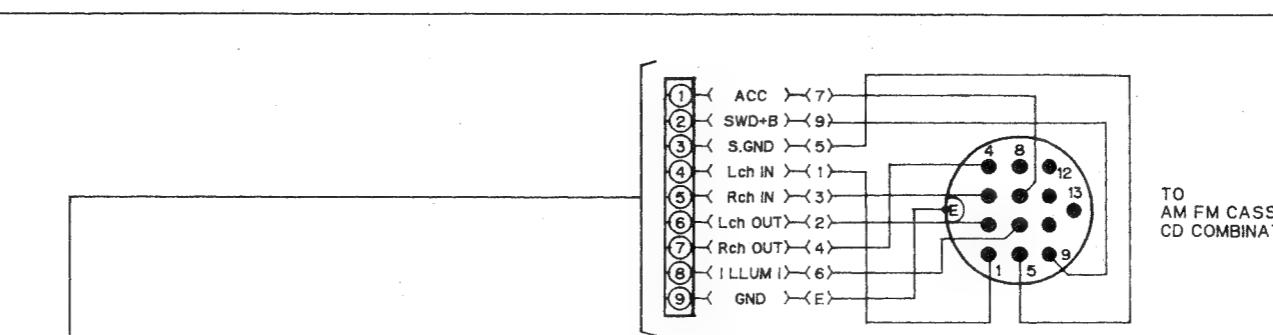
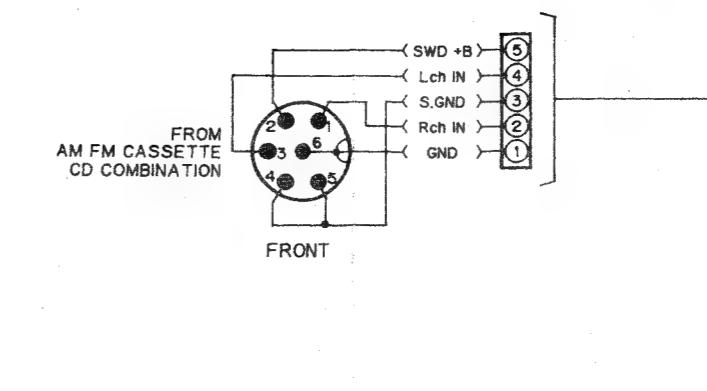
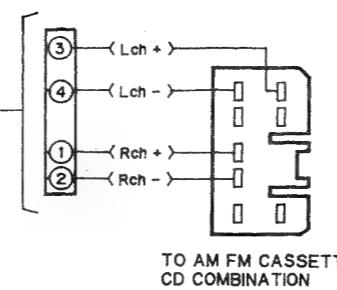
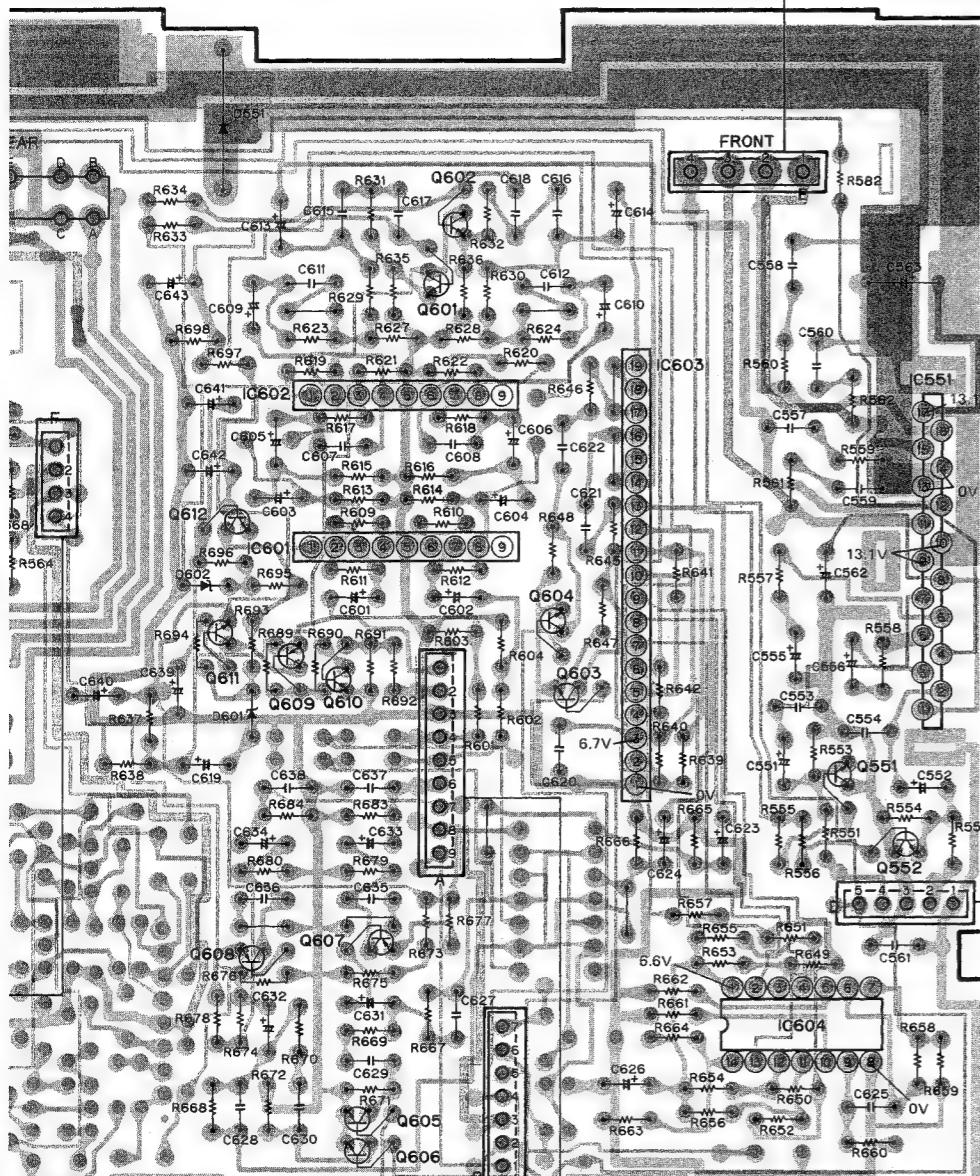
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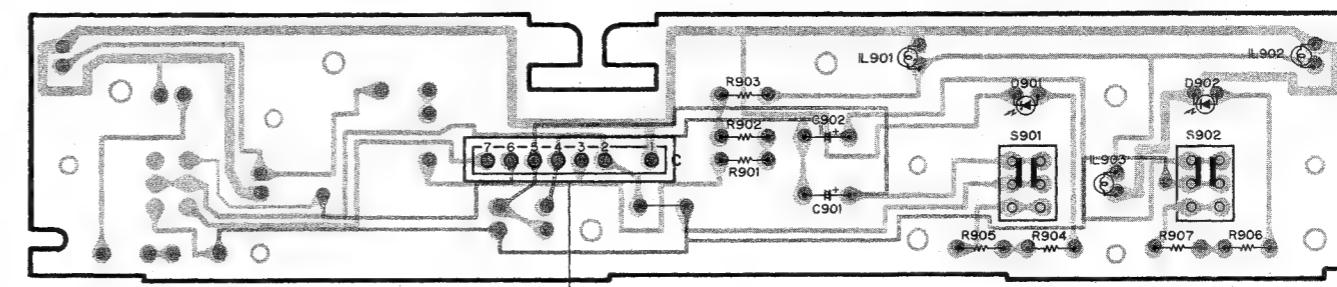
7

8

Q607
Q612 Q609 Q605 Q602 IC602 Q604
Q611 Q608 Q610 Q606 Q601 IC601 Q603 IC603
IC604 Q551 Q552 IC551



GRILLE P.C. BOARD



A

B

C

D

Fig. 55

4

5

6

7

8

9

74

13. CONNECTION DIAGRAM (4)

- AE PROCESSING UNIT
- DEH-K4141ZM, XF-4141ZM-91

A

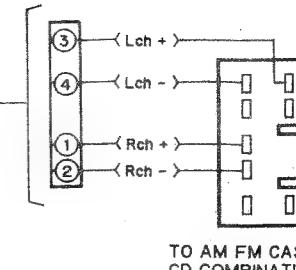
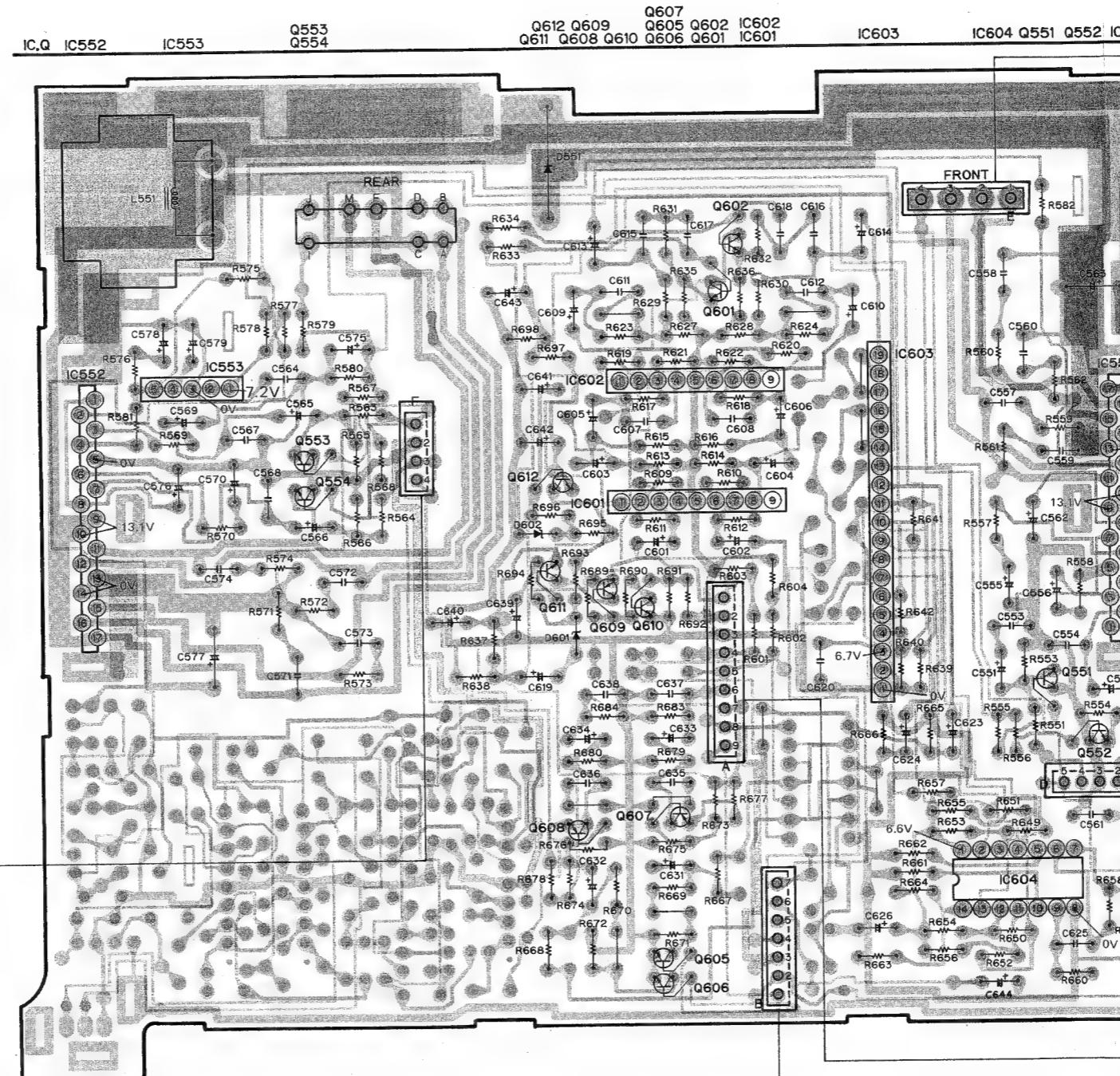
B

6

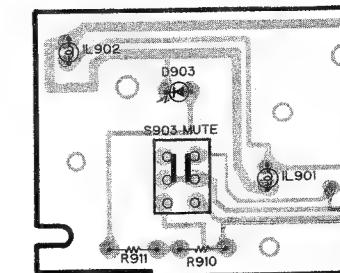
FROM AM FM CASSETTE CD COMBINATION

REAR

AE · AMP P.C. BOAR



GRILLE P.C. BOARD



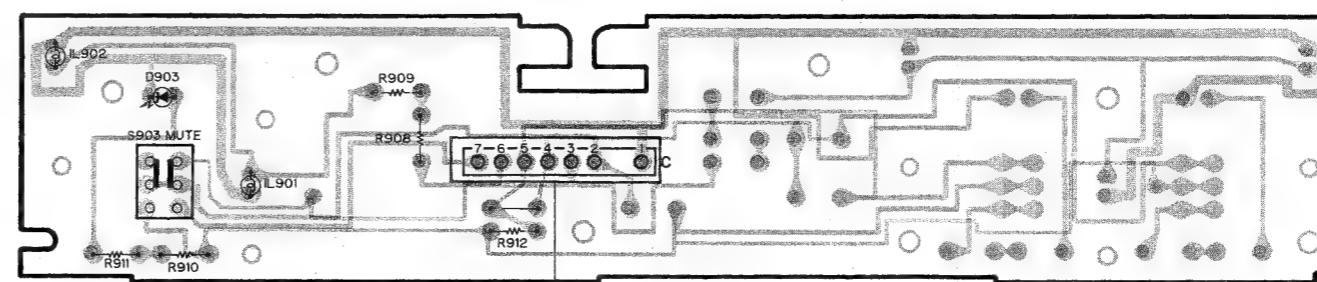
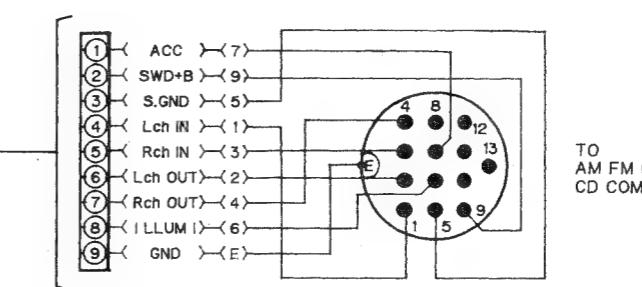
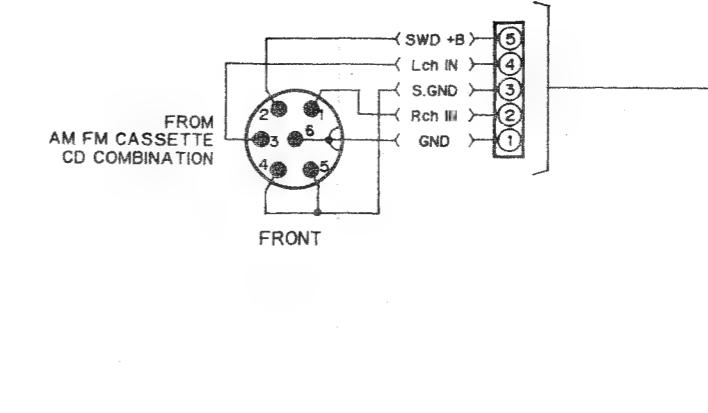
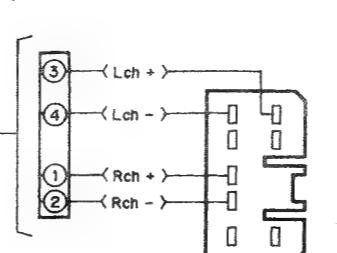
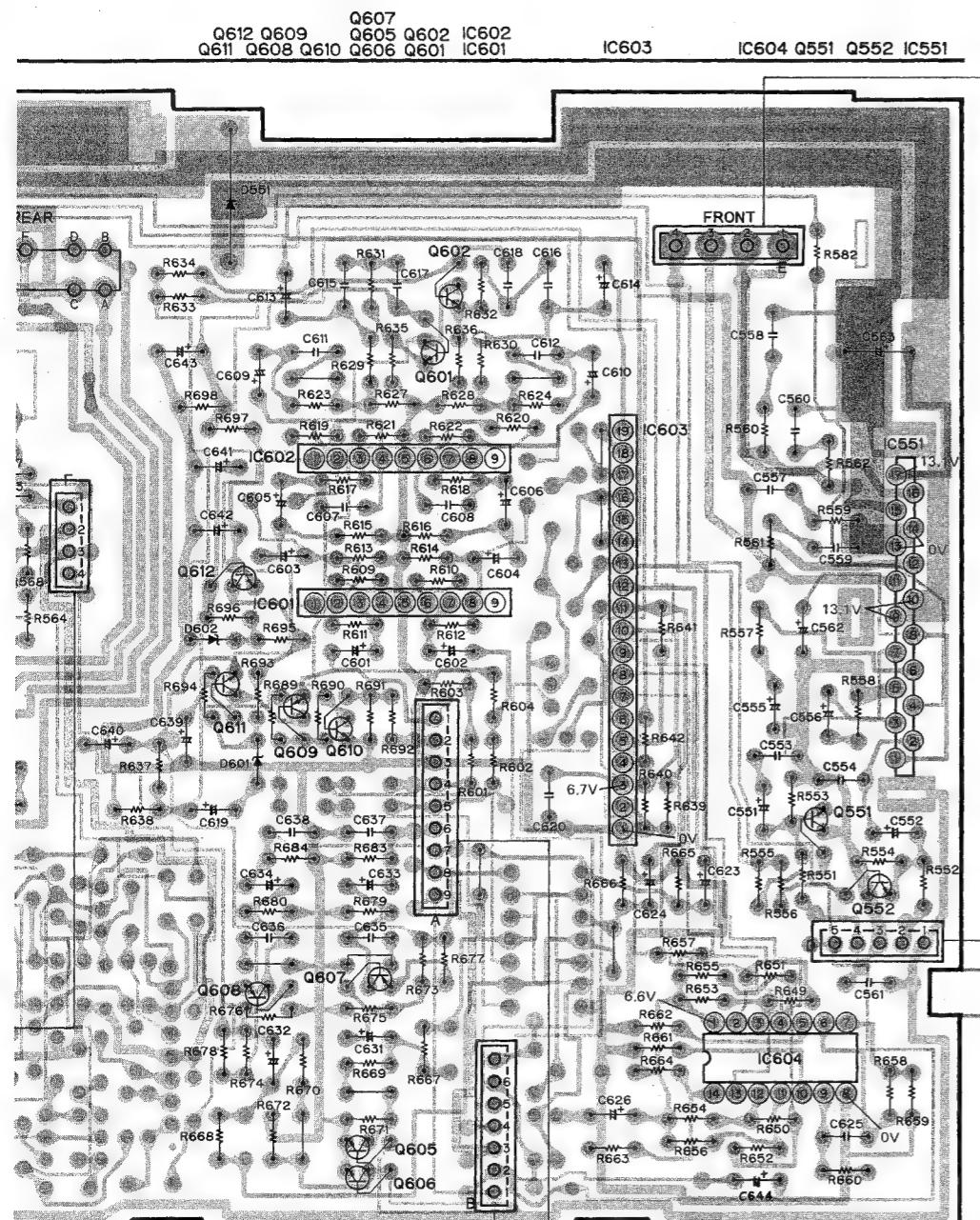
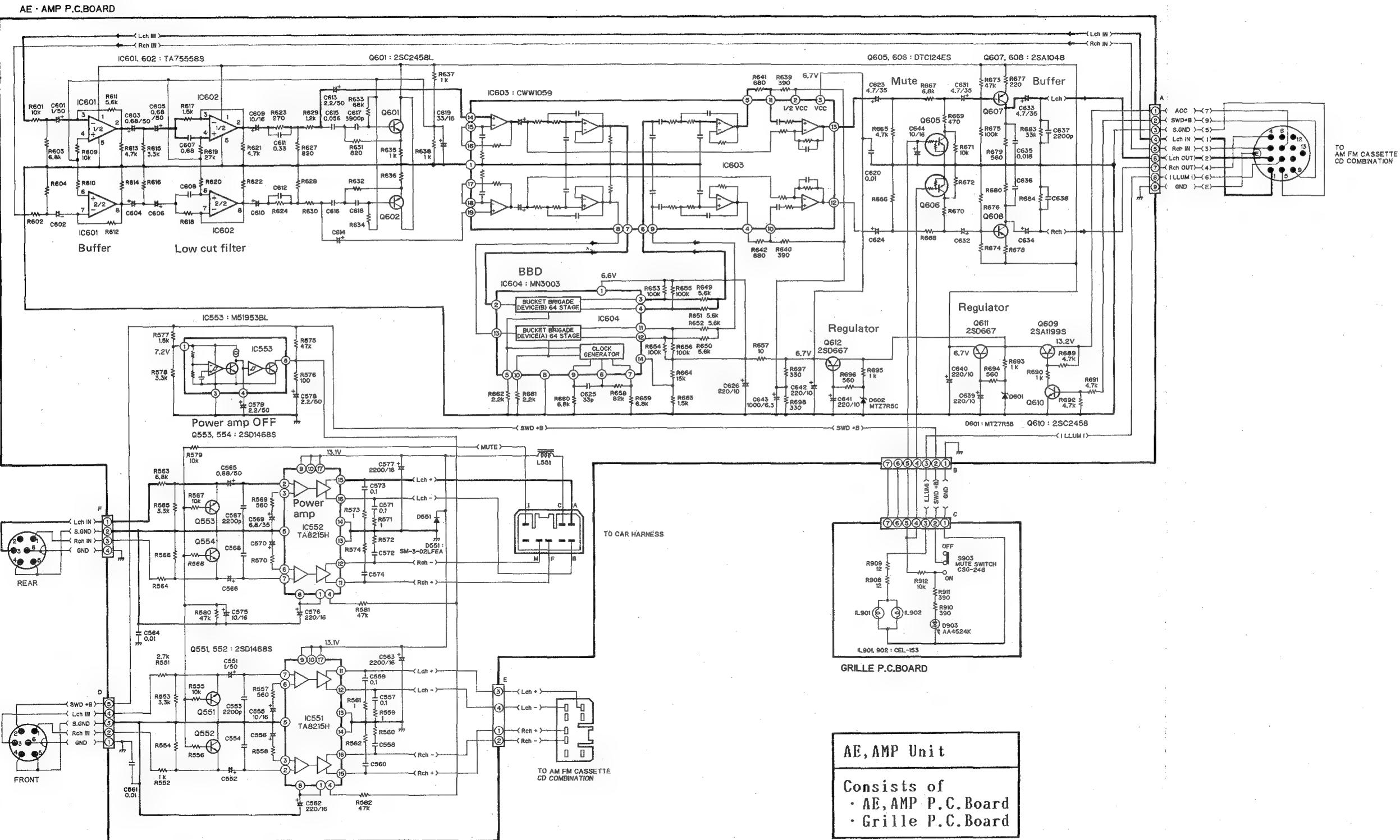


Fig. 56

14. SCHEMATIC CIRCUIT DIAGRAM (4)

- AE PROCESSING UNIT
- DEH-K4141ZM, XF-4141ZM-91

A



15. CD MECHANISM EXPLODED VIEW

NOTE:

- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
- ★★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.
- Parts marked by (◎) are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

• Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
1	BMZ26P030FMC	Screw	★★	31	CXA2129	Motor Unit(Loading)	
2		Bracket		32		Bracket	
3	CLA1311	Collar		33	CKS-719	Connector	
4	CBA1062	Screw		34	CKS-721	Connector	
5	CBH1182	Spring	★	35	SLR-981A	LED	
6	CNV1641	Holder		36	CNV1639	Holder	
7		Arm		37		Connector	
8	CBH1137	Spring		38	CNP1711	P.C. Board	
9	CBA1076	Screw		39	YE15FUC	Washer	
10		P.C. Board		40		Arm Unit	
11		Bracket Unit		41	CLA1472	Collar	
12		Chassis Unit		42		Lever	
13		Cushion		43	CLA1309	Collar	
14	CBA1075	Screw		44	CNV1630	Gear	
15	CXA2148	Damper Unit		45		Arm Unit	
16	CBH1139	Spring		46		Holder	
17	CNV1633	Holder		47		Spacer	
18	YE20FUC	Washer		48		Arm Unit	
19	CNV1631	Cam		49	CBH1134	Spring	
20	CBF-166	Washer		50	CNM2152	Spacer	
21		Bracket		51		Lever Unit	
22	CNV1636	Roller		52		Bracket	
23		Guide		53	CNV1634	Roller	
24		Arm Unit		54	CBF1002	Washer	
25	CBH1135	Spring		55	CBH1133	Spring	
26	CNV1884	Bearing		56		Bracket Unit	
27	CBA1070	Screw		57	CNV1632	Bearing	
28	CSN1009	Switch(Disc Set)		58	CBH1181	Spring	
29	CNV1644	Holder		59		Arm Unit	
30	HBA-175	Screw		60	CNV1628	Gear	

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	61	CNV1627	Gear	★★	86	CNV1780	Holder
	62	CNV1629	Gear		87	CNV1674	Holder
	63	CXA2456	Gear Unit	★★	88	CSN-094	Switch(Home)
	64		Bracket Unit	★★	89	CXM1033	Motor Unit(Spindle)
	65	CNY-265	Cushion	★★	90	CNT1020	Belt
◎	66	CXA1910	Carriage Unit		91	CXA2375	Screw Unit
	67	CBH1136	Spring		92	CNV1781	Holder
	68		Arm Unit		93	CNP1709	P.C. Board
	69		Spacer		94		Shaft
	70	CNR1079	Ball		95		Shaft
	71	CNV1643	Clamper		96	CNV1512	Holder
	72		Guide		97	CGY1007	PU Unit
	73		Chassis Unit		98	CBH1199	Spring
	74	CNC1738	Holder		99	CBL1010	Short Pin
	75	CNC1739	Holder		100	CBH1105	Spring
	76	PMS20P030FMC	Screw		101	CNC1736	Holder
	77	HBA-163	Screw		102	CLA1319	Screw
	78	CBH1138	Spring		103		Holder Unit
	79		Bracket Unit		104	CBH1106	Spring
	80		Holder Unit		105	CNV1513	Rack
★★	81	CBA-098	Screw		106	CNV1863	Cushion
	82		Bracket		107		Cover
	83	CXA2133	Motor Unit(Carriage)		108		Cushion
	84	CBH1104	Spring		109	YE12FUC	Washer
	85	CNV1844	Spacer				

★★

1

2

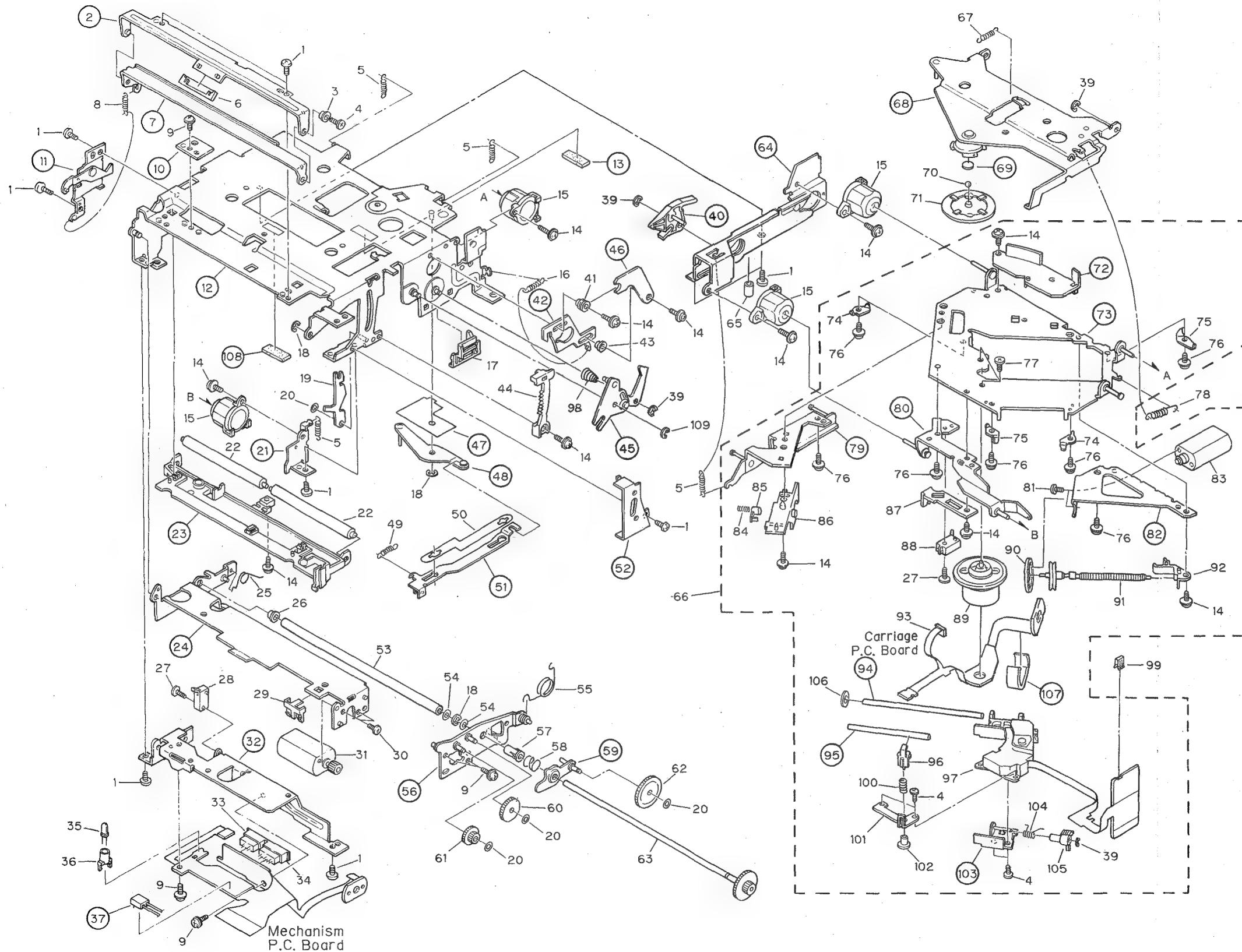
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• CD Mechanism

A



16. CASSETTE MECHANISM EXPLODED VIEW

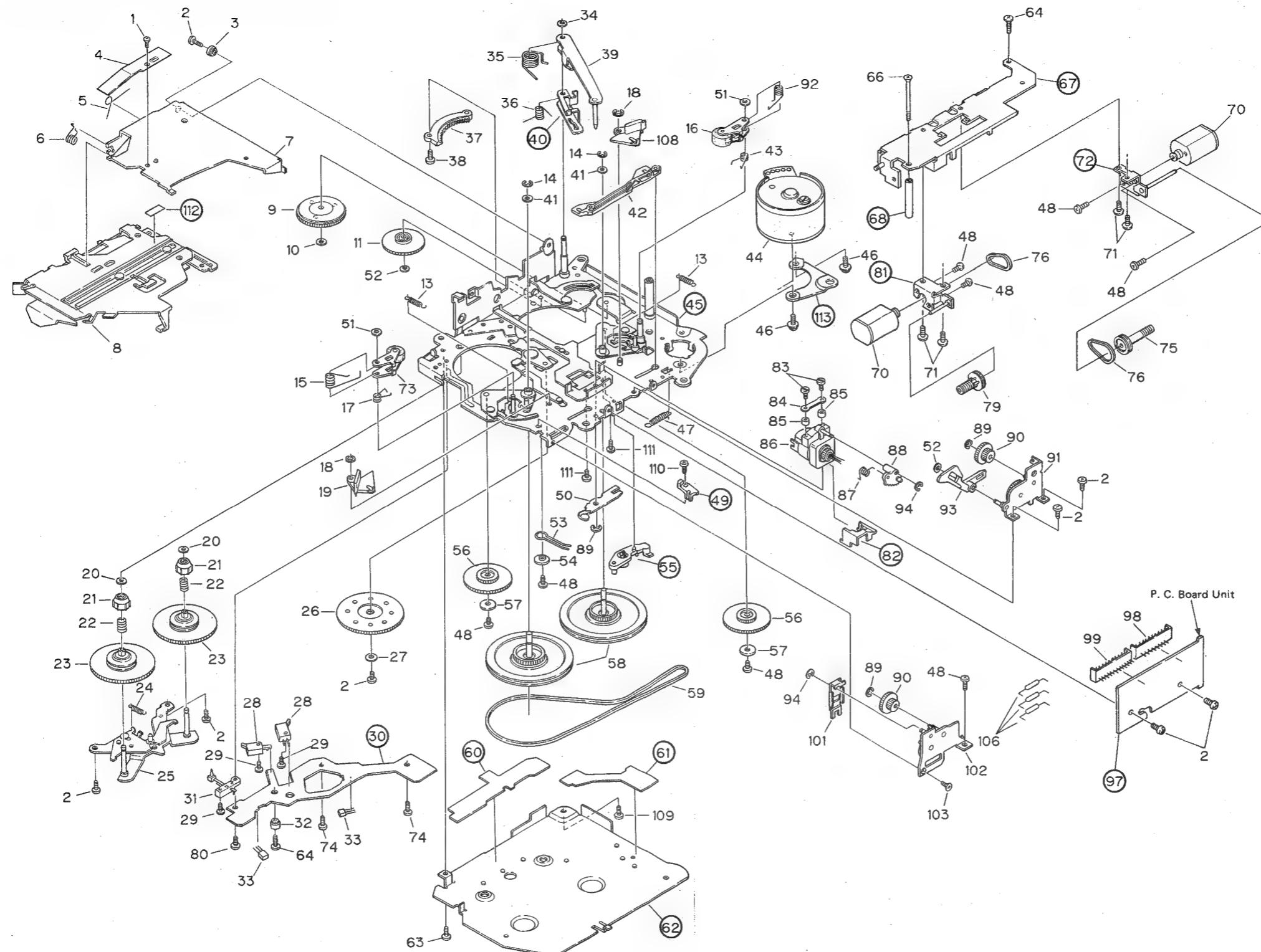


Fig. 59

● Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1	HBA-147	Screw M1.4×1.4		46	PMS26P035FMC	Screw
	2	BMZ20P040FMC	Screw		47	CBH-830	Spring
	3	CLB-663	Bush		48	HBA-175	Screw M2×2.5
	4	CBE-119	Spring		49		Spacer
	5	CBH-867	Spring		50	CBL1050	Spring
	6	CBH-837	Spring		51	CBF1025	Washer
	7	CNC2373	Arm		52	CBF-126	Washer
	8	CXA2819	Holder Unit		53	CBH-893	Spring
	9	CXA2088	Gear Unit		54	CLA1110	Collar
	10	CBF1026	Washer		55		Clamper
	11	CNY-271	Gear		56	CNV1616	Gear
	12	.....			57	CLA1238	Collar
	13	CBH-835	Spring	★★	58	CNV1572	Flywheel
	14	CBG1003	E Type Washer		59	CNT-111	Belt
	15	CBH-832	Spring		60		Insulator
★★	16	CXA2608	Pinch Roller Unit		61		Insulator
	17	CBH1197	Spring		62		Cover
	18	YE25FUC	E Type Washer		63	BMZ20P030FMC	Screw
	19	CNV1254	Arm		64	CBA-172	Screw M1.7×5.5
	20	CBF1022	Washer		65	.....
	21	CNW-932	Collar		66	CBA-165	Screw M2×25
	22	CBH-827	Spring		67		Guide
★★	23	CXA2089	Reel Unit		68		Spacer
	24	CBH-868	Spring		69	.....
	25	CXA1481	Bracket Unit	★★	70	CXA2429	Motor Unit (FF/REW, Head Position)
	26	CNW-944	F/R Gear		71	HBA-174	Screw
	27	CLA1109	Collar		72		Bracket Unit
★★	28	CSN1003	Switch (70 μ S, CST IN)		73	CXA2609	Pinch Roller Unit
	29	CBA1025	Screw M1.7×5.5		74	CBA1037	Screw M2×2.5
	30		P.C. Board		75	CNV1255	Pulley
★★	31	CSN-089	Switch (CST SET)		76	CNT1010	Belt
	32	CLA1170	Collar	★★	77	.....
	33	SDME106B	Magnetic Resistive Device		78	.....
	34	CBF-046	Washer		79	CNV1256	Pulley
	35	CBH-887	Spring		80	CBA1054	Screw M2×5
	36	CBH-886	Spring		81		Bracket Unit
	37	CNV1075	Gear		82		Cover
	38	CBA1054	Screw M2×5		83	CBA1055	Screw M1.4×8
	39	CXD-389	Arm Unit		84	CBE-114	Spring
	40		Arm		85	CNY-134	Azimuth Rubber
	41	HBF-179	Washer	★★	86	CXA2462	Head Unit
	42	CNV1257	Lever		87	CBH-829	Spring
	43	CBH1196	Spring		88	CNW-939	Gear
★★	44	CXM1007	Motor (Capstan)		89	YE12FUC	E Type Washer
	45		Chassis Unit		90	CNV1262	Gear

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	91	CXA1688	Holder Assy	★	106	1S1555	Diode
	92	CBH-831	Spring		107	.....
	93	CNV1495	Arm		108	CNV1253	Arm
	94	YE15FUC	E Type Washer		109	CBA1060	Screw M2×7
	95	.....			110	CBA1015	Screw M2×4
	96	.....			111	CBA1041	Screw M2×2.5
	97		P.C. Board		112		Spacer
	98	CKS1055	Connector (8P)		113		Bracket
	99	CKS1059	Connector (12P)				
	100	.....				
	101	CNH-004	Arm				
	102	CXA1689	Holder Assy				
	103	HBA-209	Screw M2×2				
	104	.....				
	105	.....				

17. CHASSIS (1) EXPLODED VIEW

● Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
◎	1	CWM1770	Key Board Unit	★	36	CAC1911	Button (M)
	2		Holder	★	37	CAC1913	Button (APC)
	3	CWW1173	LCD	★	38	CAC1912	Button (PRO)
	4	CNV1777	Connector		39	.....
	5	CNM2095	Plate	★	40	CAC1915	Button (FM)
	6	CNV1774	Lens	★	41	CAC1916	Button (AM)
	7		Connector	★	42	CAC1917	Button (CD)
★★	8	CEL-153	Lamp	★	43	CAC1918	Button (TAPE)
	9	CNM1993	Spacer		44	CBA1096	Screw
★★	10	CEL1071	Lamp		45		Case Unit
	11	CNV1773	Lens		46	BMZ50P060FMC	Screw
	12	CNV1776	Housing		47	.....
	13	CNV1770	Lens		48		Case
	14	CNV1771	Lens		49		Case
	15	CNV1772	Lens		50		Insulator
	16	CNP1806	P.C. Board		51		Bracket
	17	BPZ20P080FMC	Screw		52	CKM1035	Connector
	18		Cushion		53		Connector
★	19	CAC1906	Button (AUTO, SCAN)		54		Plug
★	20	CAC1907	Button (1, 4)		55	CWB1005	FM Front End
★	21	CAC1908	Button (2, 5)		56		Plug
★	22	CAC1909	Button (3, 6)		57		Clamper
	23		Cushion		58		Plug
	24	CBH1044	Spring		59		Connector
	25	CAT1163	Door		60		Plug
★	26	CAC1914	Button (EJECT)		61		Plug
★	27	CAC1910	Button (UP, DOWN)		62		Plug
	28	CXA2590	Grille Unit		63		Clamper
★	29	CAA1141	Knob		64	CDH1097	Antenna Cable
★	30	CAA1168	Knob	◎	65	CWE1119	Tuner Unit
★	31	CAA1139	Knob				
	32		Insulator				
	33		Case				
	34	BMZ30P050FMC	Screw				
	35		Cushion				

• CHASSIS (1)

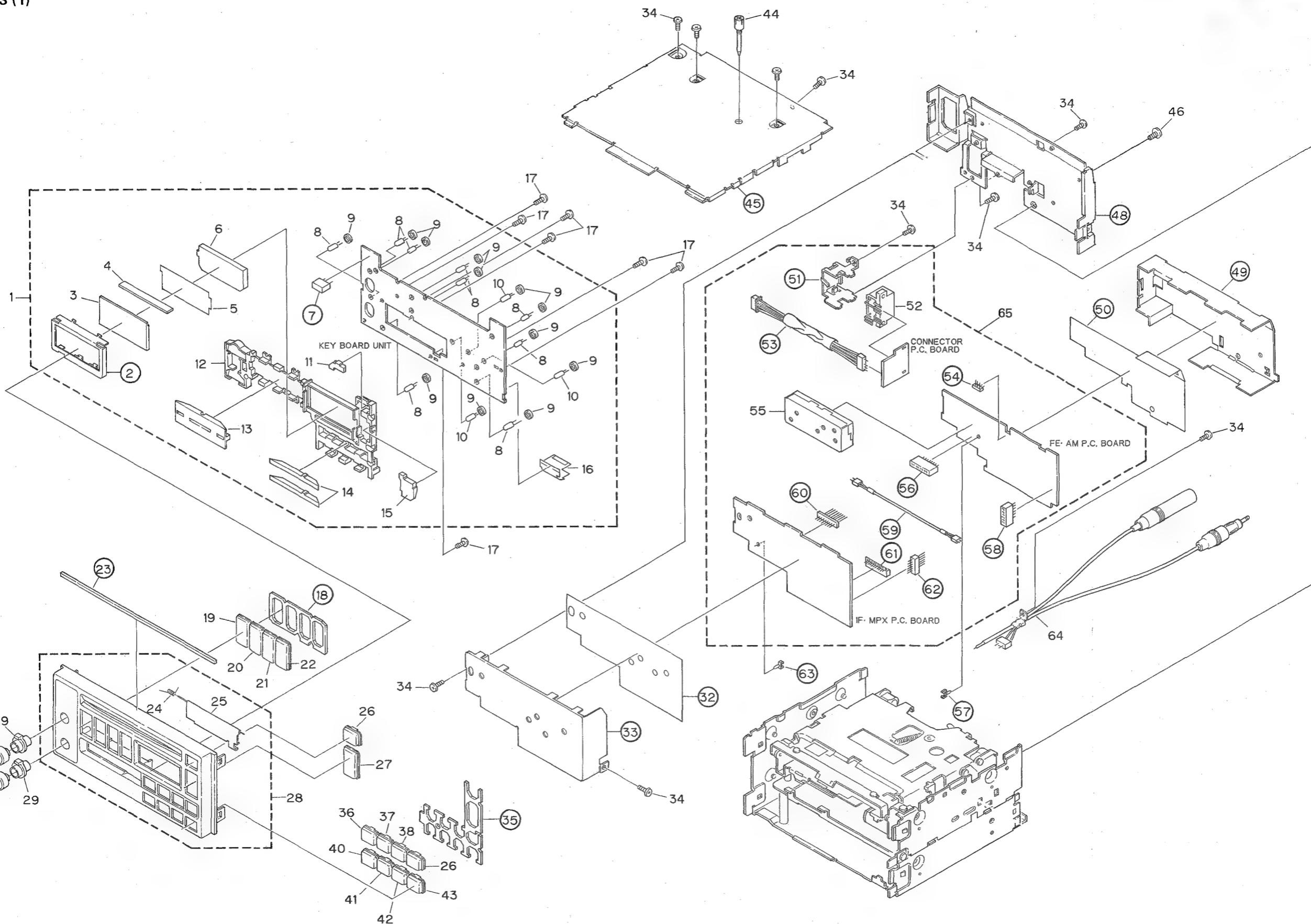
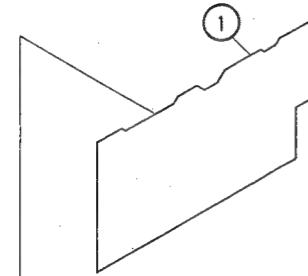


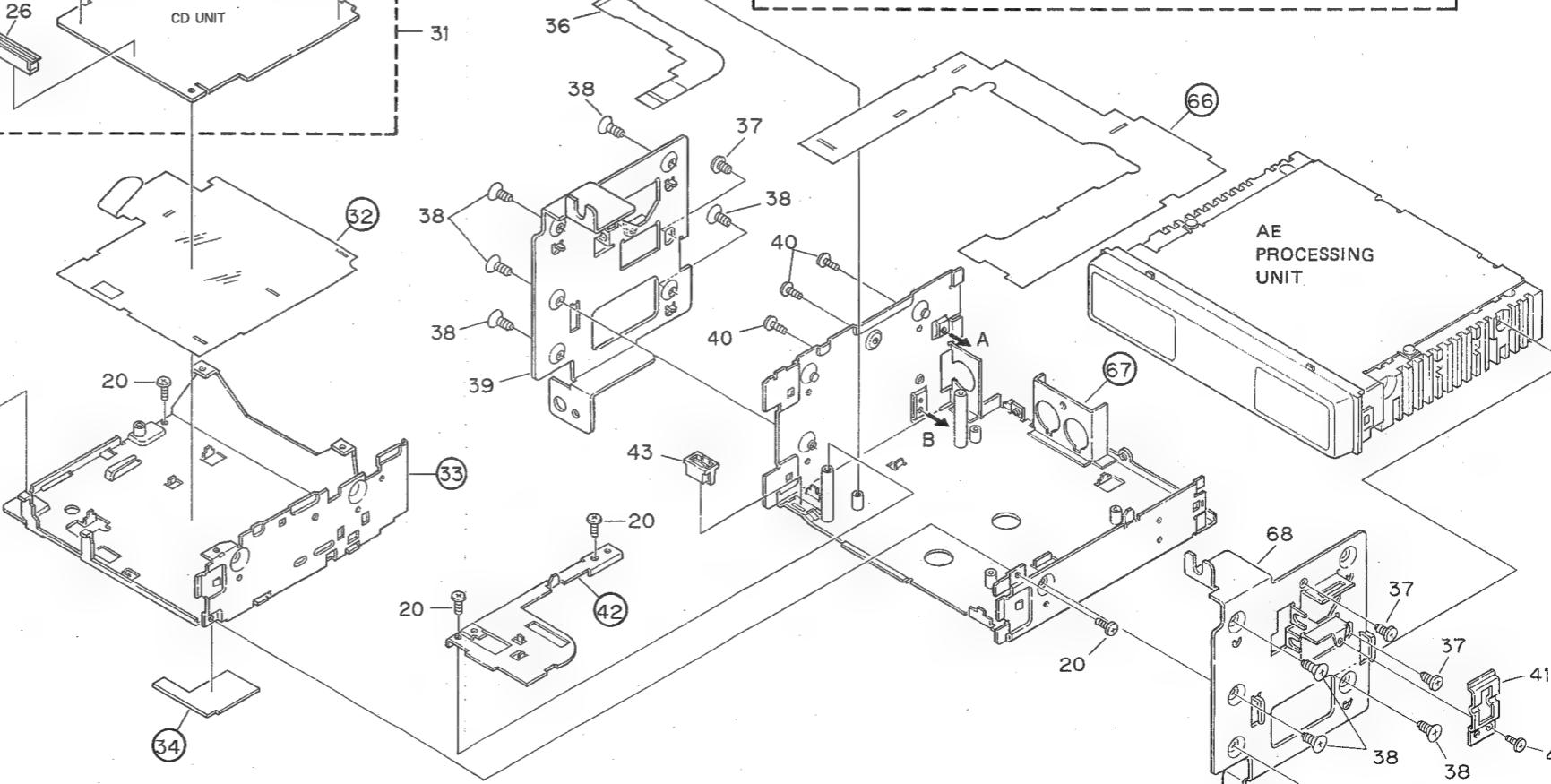
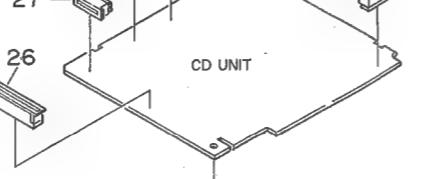
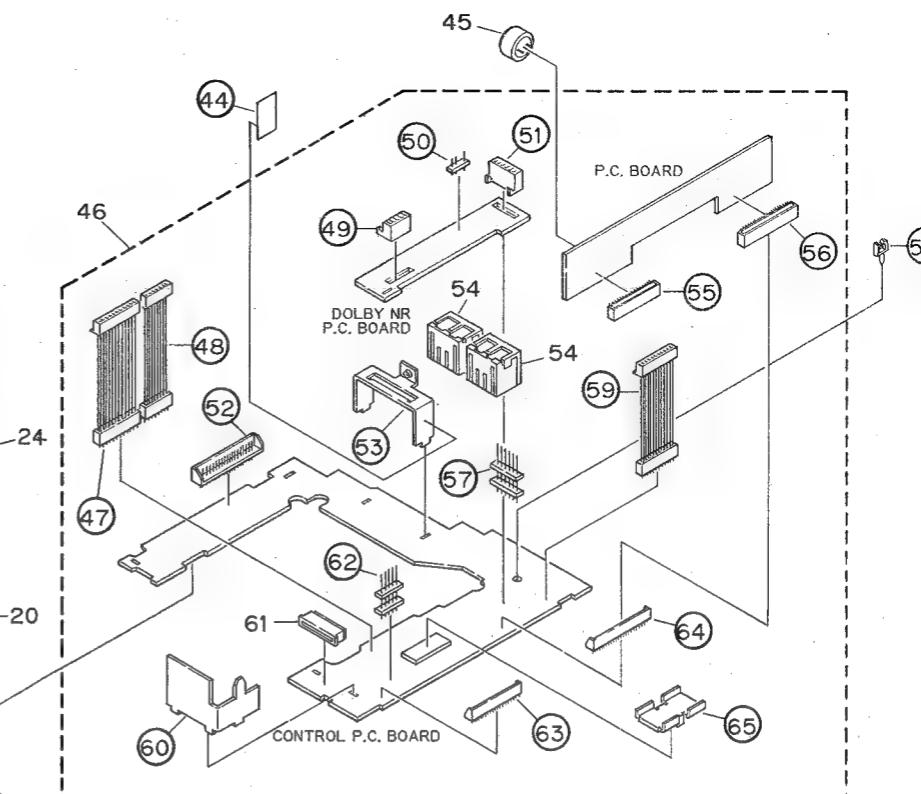
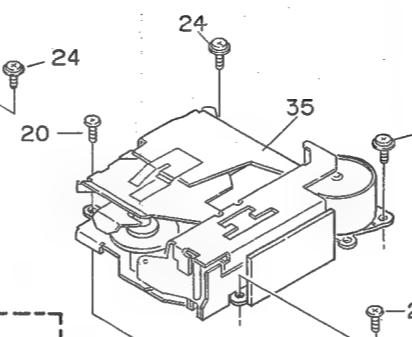
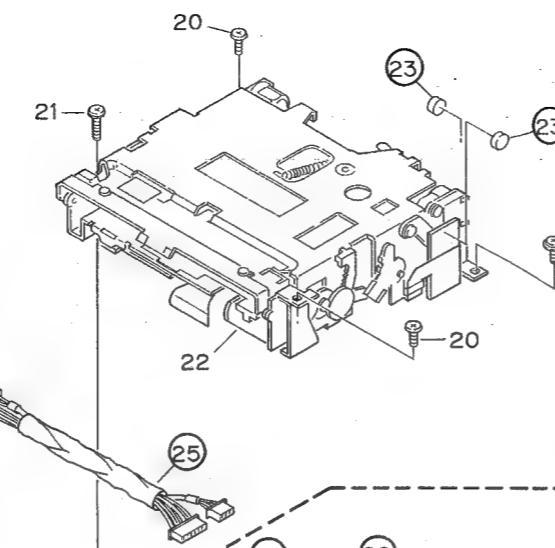
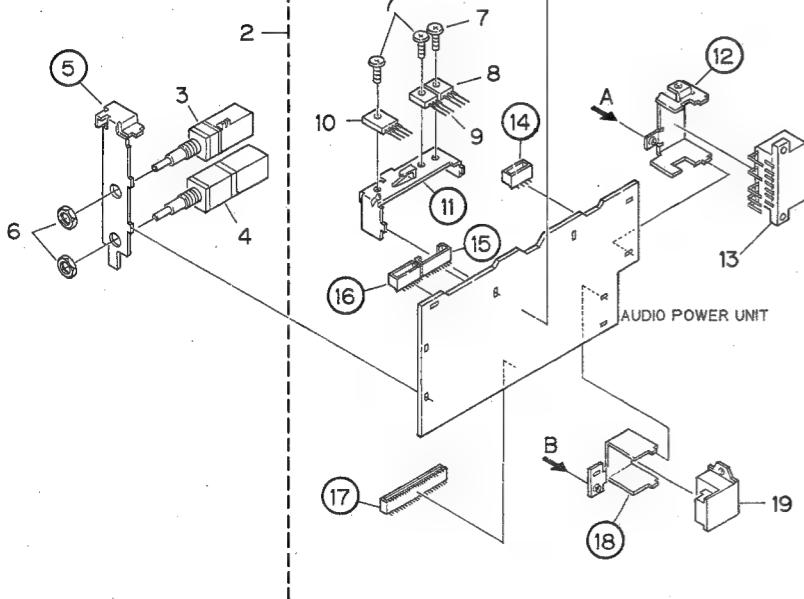
Fig. 60

18. CHASSIS (2) EXPLODED VIEW

A



B



A

B

C

D

Fig. 61

● Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
◎	1		Insulator	36		CNP1968	P.C. Board
◎	2	CWM1775	Audio Power Unit	37		BMZ50P080FMC	Screw
★★	3	CCS1122	Volume	38		CMZ50P080FMC	Screw
★★	4	CCS1104	Volume	39		CNC2771	Bracket
	5		Bracket	40		BMZ30P050FMC	Screw
	6	NK70FMC	Nut	41		CNC2531	Holder
	7	BMZ30P060FMC	Screw	42			Bracket
★★	8	2SC3421	Transistor	43		CNV1823	Guide
★★	9	2SA1358	Transistor	44			Insulator
★★	10	AN7805R	IC	45		CPV1005	Buzzer
	11		Bracket	◎	46	CWM1769	Control Unit
	12		Bracket		47		Connector
	13	CKM1036	Plug		48		Connector
	14		Plug		49		Connector
	15		Plug		50		Plug
	16		Plug		51		Connector
	17		Connector		52		Plug
	18		Bracket		53		Bracket
	19	CKS1513	Plug		54	CKS1507	Connector
	20	BMZ26P050FMC	Screw		55		Connector
◎	21	PMA26P100FMC	Screw		56		Connector
◎	22	CXK2220	CD Mechanism Unit		57		Plug
	23		Insulator		58		Clamper
	24	PMF26P050FMC	Screw		59		Connector
	25		Connector		60		Bracket
	26	CKS1415	Connector		61	CKS1175	Connector
	27	CKS1169	Connector		62		Plug
	28		Plug		63		Plug
	29		Plug		64		Plug
	30	CKS1328	Connector		65		Heat Sink
◎	31	CWX1190	CD Unit		66		Insulator
	32		Insulator		67		Chassis
	33		Chassis		68	CNC2770	Bracket
	34		Spacer				
◎	35	CXK1695	Cassette Mechanism Assy				

19. AE PROCESSING UNIT EXPLODED VIEW

● Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1	CXA2614	Grille Assy (4141ZM)		25		Holder
★	2	CAC1929	Button (4141ZM)		26		Plug
★	3	CAC1852	Button (4041ZM)		27		Plug
	4	CXA2555	Grille Assy (4041ZM)		28		Plug
	5	BPZ20P060FMC	Screw		29		Plug
●	6	CWK1024	AE, AMP Unit (4041ZM)		30		Plug
		CWK1026	AE, AMP Unit (4141ZM)		31		Holder
	7	CNV1934	Lens (4041ZM)		32	CKM1035	Plug
	8	CNV1935	Holder (4041ZM)		33		Case
★★	9	CEL-153	Lamp (4041ZM)		34	CDE2139	Connector
★	10	AA4524K	LED (4041ZM)		35	CDE2134	Connector
	11	CNV1942	Lens (4041ZM)		36	CDE2137	Cord
	12	BPZ20P060FZK	Screw (4041ZM)		37	CDE2138	Cord
	13	BPZ20P060FZK	Screw (4141ZM)		38		Case
	14	BPZ20P060FMC	Screw (4041ZM)		39		Heat Sink
★★	15	BPZ20P060FMC	Screw (4141ZM)		40		Insulator
★	16	CEL-153	Lamp (4141ZM)		41	BMZ50P080FMC	Screw
	17	AA4524K	LED (4141ZM)		42	CNC2358	Bush
	18	CNV1983	Holder (4141ZM)		43		Chassis
	19	CNV1984	Lens (4141ZM)				
	20	CDE2135	Connector				
	21	BMZ30P060FMC	Screw				
	22	BMZ30P140FMC	Screw				
	23		Heat Sink				
★★	24	TA8215H	IC				

1

2

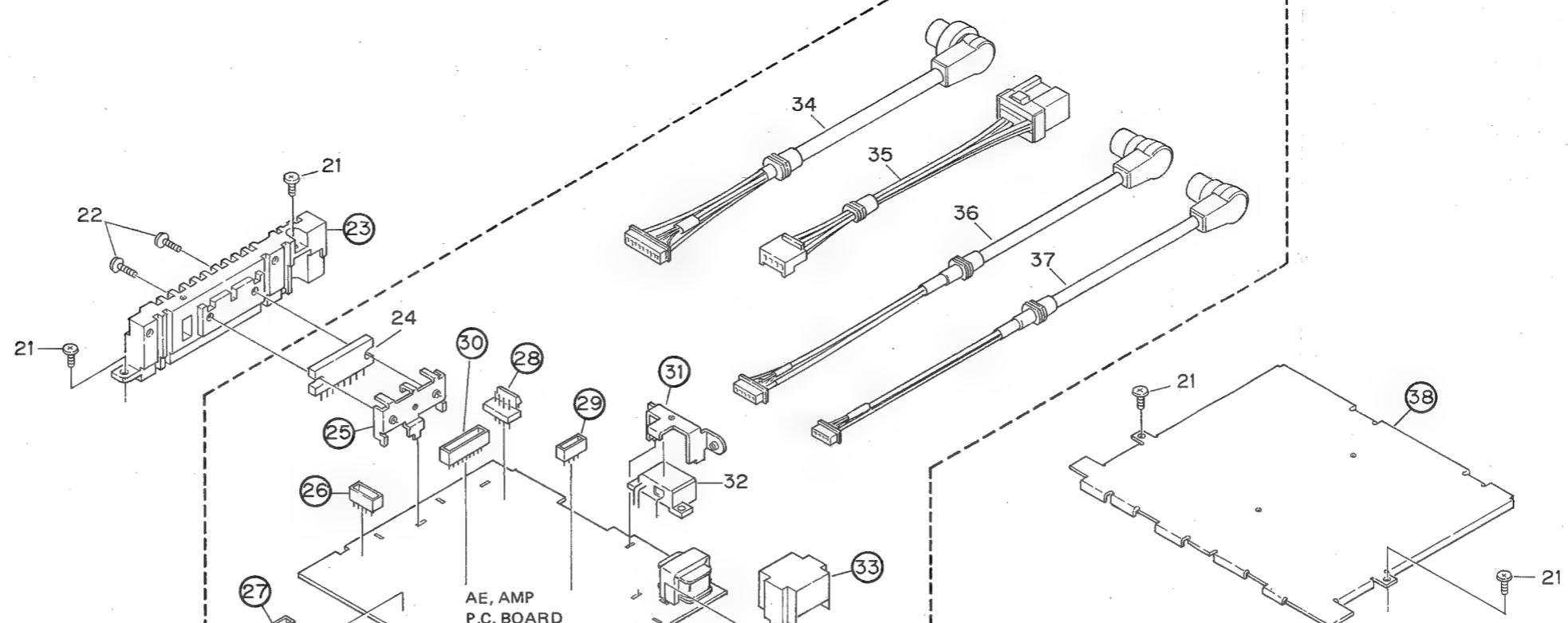
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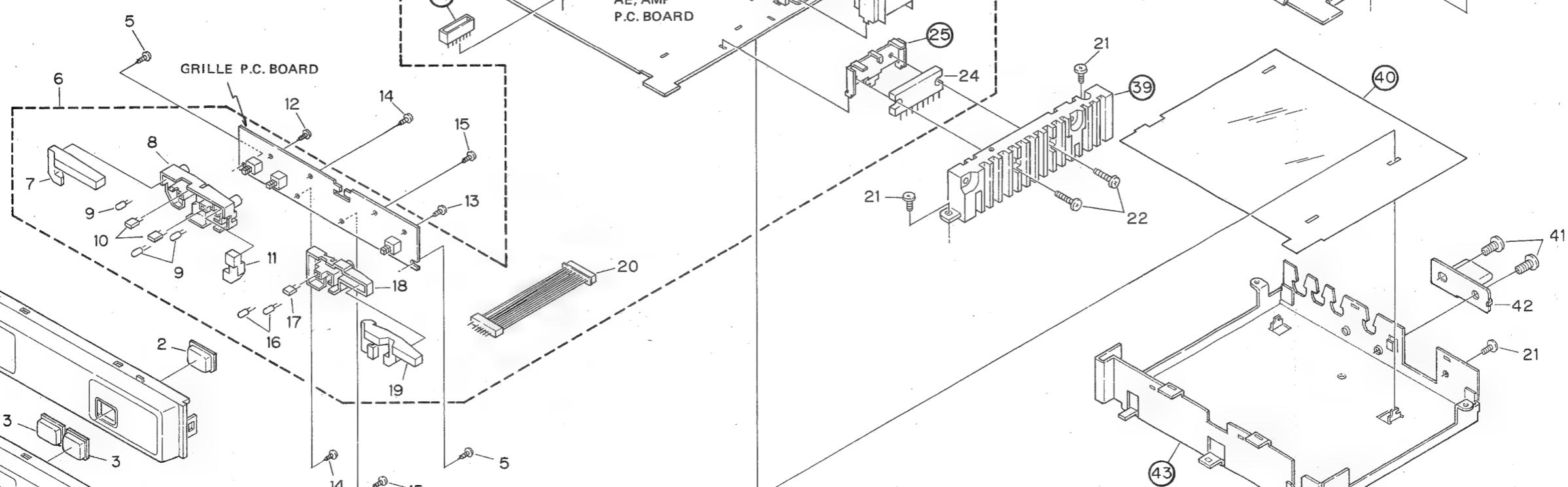
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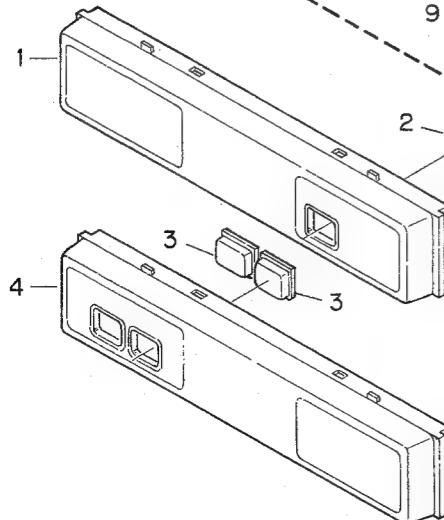
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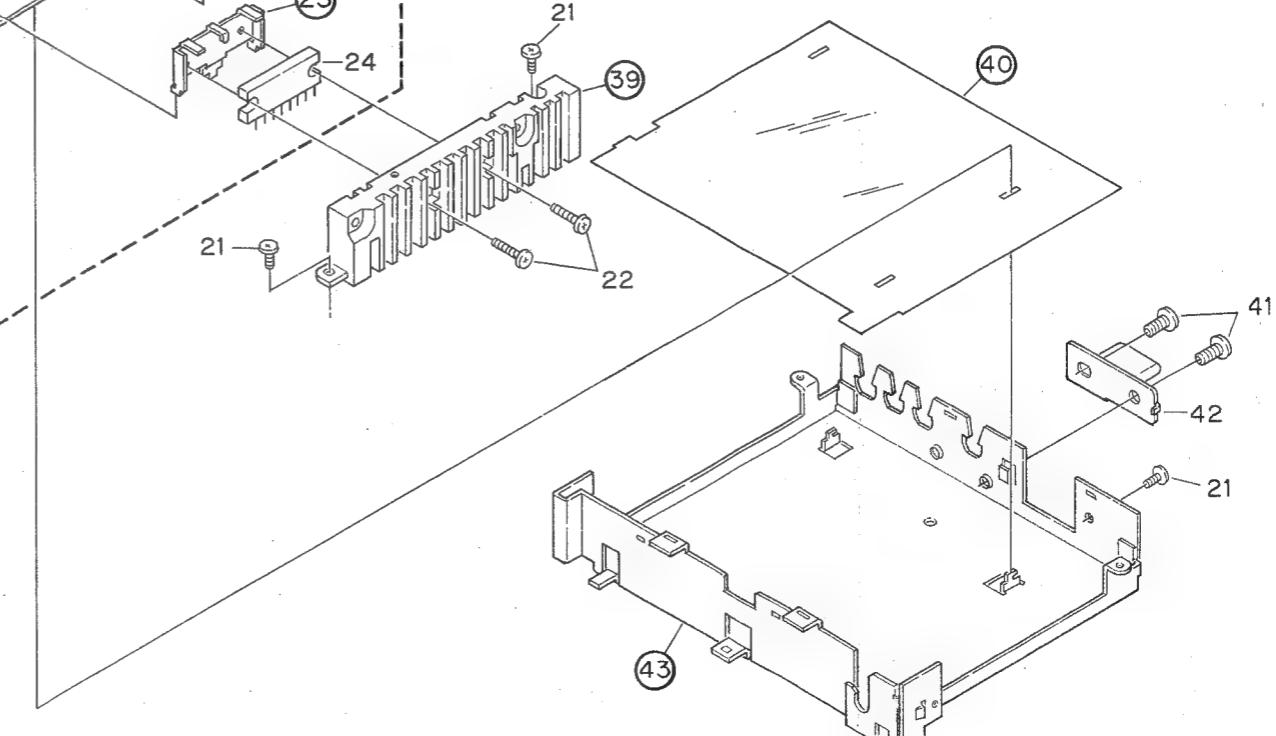
B



C



D



A

B

C

D

1

2

3

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6

95

Fig. 62

20. ELECTRICAL PARTS LIST

NOTE:

- For your parts Stock Control, the fast moving items are indicated with the marks ** and *.

** : GENERALLY MOVES FASTER THAN *.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/8S 000J, RS1/10S 000J

Chip Capacitor (except for CQS....)

CKS...., CCS...., CSZS....

Unit Number : CWB1005

Unit Name : FM Front End

MISCELLANEOUS

Mark ===== Circuit Symbol & No. === Part Name Part No.

** IC 1	CWW1015
** IC 2	PA4009
** Q 1	2SK241
** Q 2	2SC2753
** Q 3	2SK241
* D 1	KV1310A-3
L 1	Coil
L 2	Coil
L 3	Coil
L 4	Inductor
T 1	Coil
T 2	Coil
CF 1 2	Ceramic Filter

RESISTORS

Mark ===== Circuit Symbol & No. === Part Name Part No.

R 1 14	RS1/8S228J
R 2	RS1/8S478J
R 3	RD1/4PS222JL
R 4	RD1/4PS221JL
R 5 10	RS1/8S660J
R 6 9	RS1/8S688J
R 7	RS1/8S101J
R 8	RS1/8S680J
R 11	RS1/8S991J
R 12	RS1/8S331J
R 13	RD1/4PS680JL (RD1/6PS680J)

CAPACITORS

Mark ===== Circuit Symbol & No. === Part Name Part No.

C 1	CCSSH330J50
C 2	CCSSH390J50
C 3	CCSCH060D50 (CCSCH060C50)
C 4	CCSHT060C50 (CCSHT060D50)

Mark ===== Circuit Symbol & No. === Part Name Part No.

C 5 11 15 20	CKSYB222K50
C 6	CCSCH040C50
C 7 10	CKSYB103K50
C 8	CCSCH100D50
C 9	CCSSH560J50
CCSTH150J50	CF 101
CCSTH330J50	CF 102
CCSTH100D50	CF 131
CKSYB223K50	CF 132
CCSUJ080D50	CR 132
CEA2R2M35LS	X 131
CEA3R3M25LS	X 132
CCSSH080C50	** VR 101
	** VR 131 132 134
	** VR 133

Unit Number :
Unit Name : Tuner Unit

Tuner Unit
Consists of
• Connector P.C. Board
• FE-AM P.C. Board
• IF-MPX P.C. Board

MISCELLANEOUS

Mark ===== Circuit Symbol & No. === Part Name Part No.
** IC 101
** IC 131
** IC 132
** IC 133
** IC 134
** IC 135
** IC 136
** IC 137
** IC 138
** Q 101

LA1137N	R 112 174 175
PA5011	R 115 121
KHA141A	R 116 167 168
KHA505	R 117
LA2110	R 118 119 145 170 171 172 173
LA3430P	R 131
TA7558S	R 132
LC7218	R 134
KHA805	R 139 158 180 181
2SK435	R 140
2SC2458	R 141
DTC124ES	R 142
DTA114ES	R 143
2SJ105	R 144
2SC3113	R 147

Mark ===== Circuit Symbol & No. === Part Name Part No.

** Q 139	2SK330
** Q 141 142	2SA1150
* D 101 102 103 104 105 132 133 135 136 137	ISS133
* D 106	KVI280F1-2
* D 107 138 139 140	ISS133

* D 131	1SV99
* D 134	RD3R0ESB2
* D 141	RD5R1JSB2
L 101	Ferri-Inductor
L 131 132 133 134	Ferri-Inductor

T 101	Coil
T 102	Coil
T 103	Coil
T 104	Coil
T 105	Coil

T 106	Coil
T 107	Coil
T 131	Transformer
T 132	Surge Protector
CG 131 132	DSP-301NS00B

CF 101	Filter
CF 102	Ceramic Resonator
CF 131	Ceramic Filter
CR 132	CWW1145
CR 133	CWW-107

X 131	Crystal Resonator
X 132	Ceramic Resonator
** VR 101	Semi-fixed 1kΩ (B)
** VR 131 132 134	Semi-fixed 22kΩ (B)
** VR 133	Semi-fixed 10kΩ (B)

FM Front End CWB1005

RESISTORS

Mark ===== Circuit Symbol & No. === Part Name Part No.

R 101	RD1/4PS152JL
R 102 107 113 114 120 149 150	RS1/10S103J
R 103 133	RS1/10S471J
R 104 154	RS1/10S682J
R 105 135	RS1/10S330J

R 106	RS1/10S220J
R 108	RS1/10S394J
R 109 176 177 185 186 187 188 189	RS1/10S222J
R 110 146 160 161 162 178 183	RS1/10S472J
R 111	RS1/10S158J

R 112 174 175	RS1/10S223J

Unit Number :
Unit Name : AE, AMP Unit

MISCELLANEOUS

AE, AMP Unit	
Consists of	
• AE,AMP P.C. Board	
• Grille P.C. Board	

Mark ===== Circuit Symbol & No. === Part Name Part No.

** IC 551 552	TA8215H
** IC 553	M51953BL
** IC 601 602	TA75558S
** IC 603	CWV1059
** IC 604	MN3003
** Q 551 552 553 554	ZSD1468S
** Q 601 602	ZSC2458L
** Q 603 604 (K4041ZM)	DTC124ES
** Q 605 606	DTC124ES
** Q 607 608	ZSA1048
** Q 609	ZSA1199S
** Q 610	ZSC2458
** Q 611 612	ZSD667
* D 551	SM-3-02LFEA
* D 601	MTZ7R5B
* D 602	MTZ7R5C
* D 901 902	LED (K4041ZM)
* D 903	LED (K4141ZM)
L 551	Choke Coil
** S 901 902	Switch (K4041ZM)
** S 903	Switch (MUTE) (K4141ZM)
** IL 901 902 903	Lamp (K4041ZM)
** IL 901 902	Lamp (K4141ZM)

RESISTORS

Mark ===== Circuit Symbol & No. === Part Name Part No.		
R 551 645 646	(K4041ZM)	RD1/4PS222JL
R 551	(K4141ZM)	RD1/4PS272JL
R 552 635 636 637 638 690 693 695		RD1/4PS102JL
R 553 554 565 566 578 615 616		RD1/4PS332JL
R 555 556 567 568 579 601 602 609 610		RD1/4PS103JL
R 557 558 569 570 679 680 694 696		RD1/4PS561JL
R 559 560 561 562 571 572 573 574		RD1/4PS010JL
R 563 564 603 604 659 660 667 668		RD1/4PS682JL
R 575 580 581 582 673 674		RD1/4PS473JL
R 576		RD1/4PS101JL
R 577 617 618 663		RD1/4PS152JL
R 601 602	(K4041ZM)	RD1/4PS153JL
R 601 602	(K4141ZM)	RD1/4PS103JL
R 611 612 649 650 651 652		RD1/4PS562JL
R 613 614 621 622 665 666 689 691 692		RD1/4PS472JL
R 619 620		RD1/4PS273JL
R 623 624		RD1/4PS271JL
R 627 628 631 632		RD1/4PS821JL
R 629 630		RD1/4PS122JL
R 633 634		RD1/4PS683JL
R 639 640		RD1/4PS391JL
R 641 642		RD1/4PS681JL
R 647 648	(K4041ZM)	RD1/4PS334JL
R 653 654 655 656 675 676		RD1/4PS104JL
R 657		RD1/4PS100JL
R 658		RD1/4PS823JL
R 661 662		RD1/4PS222JL
R 664		RD1/4PS153JL
R 669 670	(K4041ZM)	RD1/4PS822JL
R 669 670	(K4141ZM)	RD1/4PS471JL

Mark ===== Circuit Symbol & No. === Part Name Part No.

R 671 672	(K4041ZM)	RD1/4PS104JL
R 671 672	(K4141ZM)	RD1/4PS103JL
R 677 678		RD1/4PS221JL
R 683 684		RD1/4PS333JL
R 697 698		RD1/4PS331JL
R 901 902 903	(K4041ZM)	RD1/4PS4R7JL
R 904 905 906 907	(K4041ZM)	RD1/4PS271JL
R 908 909	(K4141ZM)	RD1/4PS120JL
R 910 911	(K4141ZM)	RD1/4PS391JL
R 912	(K4141ZM)	RD1/4PS103JL

CAPACITORS

Mark ===== Circuit Symbol & No. === Part Name Part No.

C 551 552		CEA010M50L2
C 553 554 567 568 637 638		CQMA222J50
C 555 556		CEA100M16L2
C 557 558 559 560 571 572 573 574		CQMA104J50
C 561 564 620		CQMA103J50

C 562 576		CEA221M16L2
C 563 577	2200 μ F/16V	CCH-123
C 565 566 604 605 606		CEAR68M50LS2
C 569 570		CEA6R8M35LS
C 575 609 610		CEA100M16L2

C 578		CEA2R2M50LS
C 579		CEA2R2M50LS2
C 601 602		CEA010M50L2
C 603		CEAR68M50LS
C 607 608		CQFAH684J50L
C 611 612		CQEA334J63

C 613 614		CEA2R2M50L2
C 615 616		CQMA563J50
C 617 618		CQMA392J50
C 619		CEA330M16L2
C 621 622	(K4041ZM)	CQMA473J50

C 623 624 631 632 633 634		CEA4R7M35L2
C 625		CCCCH830J50
C 627 628	(K4041ZM)	CQMA102J50
C 626 639 640 641 642		CEA221M10L2
C 629 630	(K4041ZM)	CQMA104J50

C 635 636		CQMA183J50
C 643		CEA102M6R3L2
C 644	(K4141ZM)	CEA100M16L2
C 901 902	(K4041ZM)	CEAR33M50L2

Unit Number :
Unit Name : CD Unit

MISCELLANEOUS

Mark ===== Circuit Symbol & No. === Part Name Part No.

** IC 351		CXA1081M
** IC 601		CXA1082AQ
** IC 651 652		PA3023
** IC 655 657		M5218FP
** IC 656		M5233FP
** IC 701		CXD1185Q
** IC 702		CXK5816M-15L
** IC 703		μ PD6355G
** IC 704		KHA221A
** IC 751		PD4136B

Mark	Circuit Symbol & No.	Part Name	Part No.
** IC 754		M54546AL	
** Q 351		2SB822F	
** Q 601 652 653 705	Chip Transistor	UN2211	
** Q 651 701 760	Chip Transistor	UN2211	
** Q 702 706 759	Chip Transistor	UN2111	
** Q 703 704	Chip Transistor	2SD1048	
** Q 758		2SD1226MF	
* D 651		ERA15-02	
* D 652		ERA82-004Y	
* D 653 654 655 656 657 658 659		ERA82-004VH	
* D 661 662		HZS2ALL	
* D 701	Chip Diode	MA151WA-MN	
* D 702	Chip Diode	MA151K-MH	
* D 755	Chip Diode	MA3062	
L 651	Choke Coil	CTH1035	
TH 351	Thermister	CCX1001	
TH 751	Thermister	CCX-021	
X 701	Crystal Resonator	CSS1027	
X 751	Ceramic Resonator	CSS-042	
** VR 351	Semi-fixed	CCP1005	
** VR 352	Semi-fixed	CCP1006	
** VR 604	Semi-fixed 2.2kΩ (B)	HCP-267	
** VR 651	Semi-fixed 47kΩ (B)	HCP-275	

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
R 351		RS1/2P220JL	
R 353 381 708 709 714 724 725 726 727 728		RS1/10S102J	
R 354 363 378		RS1/10S223J	
R 355 610 625		RS1/10S113J	
R 356 357 358 359 669		RS1/10S563J	
R 360 361		RS1/10S124J	
R 362 763		RS1/10S564J	
R 364 365 618 671		RS1/10S105J	
R 366 377 666		RS1/10S562J	
R 367 780		RS1/10S104J	
R 379 722 723		RS1/10S472J	
R 380 617 628 682		RS1/10S203J	
R 382		RS1/10S363J	
R 383		RS1/10S823J	
R 384 630		RS1/10S273J	
R 601 602		RS1/10S101J	
R 606		RS1/10S224J	
R 607		RS1/10S683J	
R 608		RS1/10S823J	
R 609 614 619 627 773		RS1/10S104J	
R 611		RS1/10S432J	
R 612		RS1/10S623J	
R 613		RS1/10S624J	
R 616		RS1/10S183J	
R 620		RS1/10S332J	
R 621		RS1/10S184J	
R 622 670 687 696 697 715 718 719 751		RS1/10S103J	
R 623		RS1/10S473J	
R 624		RS1/10S393J	
R 629		RS1/10S153J	

Mark	Circuit Symbol & No.	Part Name	Part No.
R 631			RS1/10S272J
R 634			RS1/10S474J
R 665 790			RS1/10S821J
R 667 684 686 717			RS1/10S472J
R 668 679			RS1/10S392J

Mark	Circuit Symbol & No.	Part Name	Part No.
R 672			RS1/10S364J
R 673			RS1/10S473J
R 674 710 711 716			RS1/10S332J
R 676 799			RS1/10S201J
R 677			RS1/10S201J

Mark	Circuit Symbol & No.	Part Name	Part No.
R 678			RS1/10S223J
R 680			RS1/1P1R5JL
R 681			RS1/10S203J
R 683			RS1/10S101J
R 685 692			RS1/10S105J

Mark	Circuit Symbol & No.	Part Name	Part No.
R 690			RS1/10S272J
R 691 703 755			RS1/10S103J
R 694 786			RS1/10S822J
R 701			RS1/10S100J
R 712 713			RS1/10S392J

Mark	Circuit Symbol & No.	Part Name	Part No.
R 721			RS1/10S4R7J
R 747			RS1/10S0R0J
R 752 775			RS1/10S103J
R 753 754 756 779			RS1/10S681J
R 766 767			RS1/10S681J

Mark	Circuit Symbol & No.	Part Name	Part No.
R 770 771 772			RS1/10S222J
R 774			RS1/10S333J
R 787			RS1/10S0R0J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
C 351			CEA101M6R3LS
C 352 611 625 626 662 664 713 721 724 727			CKSQYB103K50
C 353 613 666			CKSYB333K25
C 354 357			CASA330M6R3
C 355 667 668 714			CKSQYB103K50
C 356			CKSYB332K50
C 359 614			CEAR47M50LS
C 360 361			CSZS010M16
C 370 703 704			CCSQCH220J50
C 371 615			CKSQYB102K50
C 372			CCSQCH100D50
C 373 627			CCSQCH220J50
C 601			CKSQYB222K50
C 602 653 708 709			CEA100M25LS
C 603 607 612 716			CEA100M6R3LS
C 605 620 622 628 629			CKSYB473K25
C 606			CEA220M16LS
C 608			CEA220M6R3NPLL
C 609 756			CKSQYB472K50
C 610 619			CCSQCH221J50
C 616			CEA220M6R3LS
C 617			CCH1050
C 618			CKSQYB682K50
C 621			CEA4R7M16NPLL
C 623			CKSQYB272K50

4.7 μF/16V

Mark	Circuit Symbol & No.	Part Name	Part No.
C 624		CCSQCH391J50	
C 651 670		CKSYF224Z25	
C 652	470 μ F/16V	CCH-114	
C 654 658		CCSQCH221J50	
C 656		CEA100M16LS	

C 661 663		CEA101M50NPLL	
C 665 678		CKSYB473K25	
C 671 672		CSZSR68M20	
C 674 705		CASA100M6R3	
C 675 676		CEA2R2M35LS	
C 677 679		CCSQSL681J50	
C 680		CCSQSL681J50	
C 681		CKSYB393K25	
C 701 710 712 726		CASA6R8M6R3	
C 702		CASA220M6R3	
C 706 707		CCSQCH470J50	
C 717 718		CEA470M6R3LS	
C 719		CEA101M6R3LS	
C 720		CEA101M6R3LS	
C 722 723		CEA330M6R3LS	
C 728 729 751 758		CKSQYB103K50	
C 752		CCSQCH300J50	
C 753		CCSQCH300J50	
C 755		CEA221M6R3LL	
C 757		CASA6R8M10	

Unit Number :
Unit Name : Control Unit

Control Unit
Consists of
• Control P.C. Board
• Dolby NR P.C. Board
• P.C. Board

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
** IC 801		PDA155P	
** IC 802		PA3022A	
** IC 803		M51953BL	
** IC 804		M51957BL	
** IC 871		M51522AL	
** IC 872		CXA1102P	
** Q 801 802 813	Chip Transistor	2SC2712	
** Q 803 805		2SC2458	
** Q 804 806 809 871 872 873		DTC124ES	
** Q 807		2SA1358	
** Q 808		2SD1640	
** Q 810 811		2SD1864	
** Q 812 874		2SA1048	
* D 801 802 803 804 805 809 810 813 815 819		ISS133	
* D 806 808 812		RD6R8JSB3	
* D 807		RD22JSB1	
* D 811 814		RD6R2JSB2	
* D 817 820 821 822 871		ISS133	
L 801 802	Ferri-Inductor	LAU150K	
CR 871		CWW1087	

Mark	Circuit Symbol & No.	Part Name	Part No.
IB 801 802 803			CWW1048
X 801		Crystal Resonator	CSS1023
** VR 871 872		Semi-fixed 470 Ω (B)	VRTB4VS471
RESISTORS			

Mark	Circuit Symbol & No.	Part Name	Part No.
R 801 805 809 810 811 812 846 847 848 849			RS1/10S472J
R 802			RS1/10S392J
R 803			RS1/10S684J
R 804			RS1/10S562J
R 806 807 808 814 828 881 882			RS1/10S473J
R 813 815 816			RD1/4PS473JL
R 817 830			RD1/4PS104JL
R 818 819 820 825			RS1/10S681J
R 821 822 823 824			RS1/10S682J
R 826 827 831 839 841 842			RS1/10S103J
R 829 837 844 845			RS1/10S228J
R 832			RS1P561JL
R 833			RS1/8S228J
R 834			RS1/8S222J
R 835 855 879 883 884			RD1/4PS102JL
R 873			RD1/4PS101JL
R 838 836			RD1/4PS561JL
R 840			RD1/4PS221JL
R 843			RS1/8S561J
R 850 851 852 853			RS1/10S472J
R 854			RD1/4PS382JL
R 874			RD1/4PS433JL
R 875 877			RD1/4PS103JL
R 876 878			RD1/4PS228JL
R 885 886			RD1/4PS821JL

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
C 801 802 818 820 822 825			CEA220M16LS
C 803 830			CEA101M16LL
C 804			CKSYB223K25
C 805 806 807 808 809 810			CKSYF473Z50
C 811 814			CCSQCH330J50
C 812			CKSQYB392K50
C 813 829			CKSYF104Z25
C 815			CEA470M16LS
C 816 831			CKSQYF473Z25
C 817 819 821 824 826 827			CKSQYB223K25
C 823			CEA101M50LS2
C 828 883 884			CEAR68M50LS2
C 870			CCSCH090D50
C 871 872			CKSQYB561K50
C 873 874			CEANL4R7M35LL
C 875 876			CEA470M16L2
C 878 882 887			CEA101M10LS
C 879 880			CEALNP010M50
C 881			CEAR15M50LS2
C 885 886			CEA4R7M35LS

Unit Number :
Unit Name : Key Board Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
** IC 901		LC7582P	
* D 901	LED	MU16-3105	
** IL 901 902 903	Lamp	CEL1071	
** IL 904 905 906 907 908 909 910 911 912	Lamp	CEL-153	
** S 901 902 903 904 905 906 907 908 909 910	Switch	CSG-253	
** 911 912 913 914 915 916 917 918 919	LCD	CWW1173	
R 901		RD1/4PS104JL	
R 902		RN1P6R8JL	
C 901		CKPYB331K50L	
C 902		CKPYF223Z25L	

Unit Number :
Unit Name : Audio Power Unit

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
** IC 201		KHA125	
** IC 202 203 204		TA7555S	
** IC 205		AN7805R	
** IC 206		M5236L	
** Q 201 202		DTC843TS	
** Q 203 211		DTC124ES	
** Q 204		2SB1243	
** Q 205		2SA1358	
** Q 206		2SC3421	
** Q 207 209		DTC114ES	
** Q 208		2SB1357	
** Q 210		DTA124ES	
* D 201 202 205 206		1SS133	
* D 203		RD9R1JSB2	
* D 204		RD6R8JSB3	
* D 207 210 211		ERA15-02VH	
* D 208 209		SM-3-02LFDA	
* D 212		RD5R6JSB2	
L 201 202	Coil	CTH1053	
L 203	Ferri-inductor	CTP-157	
CR 201		CWW1131	

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
R 201		RS1/10S393J	
R 202		RD1/4PS222JL	
R 203 204		RS1/10S102J	
R 205 206		RS1/10S332J	
R 207 208 217 218 219 220 221 222 223 224		RS1/10S472J	
R 209 210 234		RS1/10S472J	
R 211 233		RS1/10S392J	
R 212		RS1/8S472J	
R 213 214 215 216 237		RS1/10S333J	
R 225 226 227 228 241 242		RS1/10S101J	

Mark ===== Circuit Symbol & No. === Part Name Part No.

R 229 230 231 232 243 244		RS1/10S223J
R 235 236 239		RS1/10S103J
R 238		RS1/8S338J
R 240 258		RS1/8S103J
R 245		RD1/4PS221JL
R 246		RD1/4PS561JL
R 248 249		RS1/8S152J
R 250		RD1/2VS102JL
R 251		RS1/8S228J
R 252		RS1/8S102J
R 253 254		RD1/4PS101JL
R 256		RD1/4PS223JL
R 257		RD1/4PS103JL
R 259		RS1/10S221J

Mark ===== Circuit Symbol & No. === Part Name Part No.

C 201 202 203 204		CEA100M16LS2
C 205 206		CEA2R2M50LS2
C 207		CKSYF105Z25
C 208 222 227		CEA101M10L2
C 209 210 211 212		CEA47M50LS2
C 213 214 215 216		CEA010M50LS2
C 217 218 219 220 223 224 225 226		CEA4R7M35LS
C 221 244		CEA101M10LS
C 228		CKSQYB223K25
C 229 232		CEA221M10L2
C 230		CKSQYB153K50
C 231 238 239		CEA470M25L2
C 233 237		CKSYB473K25
C 234		CEA010M50L2
C 236		CEA100M50L2
C 240 241 242 247	1000 μ F/16V	CCH1003
C 243	2200 μ F/16V	CCH-123
C 250		CCG1004

Unit Number :

Unit Name : Switch P.C. Board

Mark ===== Circuit Symbol & No. === Part Name Part No.

** S 1	Switch(CST SET)	CSN-089
** S 2 3	Switch(CST IN, 70 μ s)	CSN1008
MR 1 2	Magnetic Resistive Device	SDME106B

Unit Number :

Unit Name : P.C. Board Unit

Mark ===== Circuit Symbol & No. === Part Name Part No.

* D 1 2 3		1S1555
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Unit Number :

Unit Name : Carriage P.C. Board

Mark ===== Circuit Symbol & No. === Part Name Part No.

** M 831	Motor Unit(Spindle)	CXM1033
** M 832	Motor Unit(Carriage)	CXA2133
** S 831	Switch(Home)	CSN-094

Unit Number :

Unit Name : Mechanism P.C. Board

Mark ===== Circuit Symbol & No. === Part Name Part No.

** Q 831	Photo-Transistor	PH102-F
** D 831	LED(Disc Detect)	SLR-981A
** M 833	Motor Unit(Loading)	CXA2129
** S 832	Switch(Disc Set)	CSN1009

Miscellaneous Parts List

Mark ===== Circuit Symbol & No. === Part Name Part No.

	PU Unit	CGY1007
**	Head Unit	CXA2462
** M 1 2	Motor(Head,FF/REW)	CXA2429
** M 3	Motor(Capstan)	CXM1007
BZ 801	Buzzer	CPV1005
** VR 1	Volume	CCS1104
** VR 2	Volume	CCS1122